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MOUNTAIN FOOTHILLS

GRAZING MANAGEMENT PROGRAM

FINAL

Environmental Impact Statement



August 1980

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
BUTTE DISTRICT OFFICE

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT

222 North 32nd Street

P.O. Box 30157

Billings, Montana 59107

August 1, 1980

Dear Reader:

This *Mountain Foothills Grazing Management Program Final Environmental Impact Statement* is to be used in conjunction with the draft environmental impact statement issued in March 1980. That document describes a proposed grazing management program for approximately 955,000 acres of public land administered by the Bureau of Land Management in its Dillon Resource Area and analyzes five alternatives to the proposed action.

Corrections and revisions that should be made to the draft are shown in this final statement. Comments on the draft that were made at public meetings and by letter are also included, along with the BLM's responses to those comments. Because the changes suggested through the public review process did not require a major rewrite of the draft, the draft statement and its accompanying map supplement are incorporated into this final environmental impact statement by reference. This action resulted in a substantial cost saving. A limited number of copies of the draft and the map supplement are available at the Bureau of Land Management, Butte District Office, P.O. Box 3388, Butte, Montana 59701.

This final environmental impact statement is not the decision document. The decision on the action to be taken will be based on the analysis contained in this statement, the BLM's personnel and budget constraints, public concerns and comments, and other multiple use resource objectives or programs applicable to the area. No action can be taken until at least 30 days have passed after the final statement is filed with the Environmental Protection Agency and distributed to the public. A Rangeland Management Program Document will be prepared as soon as a decision is reached. This document will outline the management direction for the Mountain Foothills study area. More specific decisions will subsequently be developed on an allotment-by-allotment basis.

We would like to thank the individuals and organizations whose comments and suggestions have helped us to prepare a document that will lead to more effective management of public lands. Their interest is appreciated.

Sincerely yours,

Michael J. Penfold
State Director

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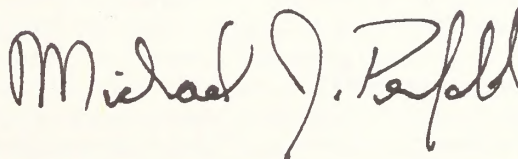
**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

**MOUNTAIN FOOTHILLS
GRAZING MANAGEMENT PROGRAM**

**FINAL
ENVIRONMENTAL IMPACT STATEMENT**

(to be used with the draft)

**BEAVERHEAD, DEER LODGE, MADISON, AND SILVER BOW COUNTIES
MONTANA**



**Montana State Director
Bureau of Land Management**

August 1980

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**UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

**MOUNTAIN FOOTHILLS GRAZING MANAGEMENT PROGRAM
FINAL ENVIRONMENTAL IMPACT STATEMENT**

Beaverhead, Deer Lodge, Madison, and Silver Bow Counties, Montana

ABSTRACT:

The *Mountain Foothills Grazing Management Program Draft Environmental Impact Statement* (EIS), which is incorporated into this final EIS by reference, discusses a proposed grazing management program for approximately 955,000 acres of public land administered by the Bureau of Land Management in the Dillon Resource Area. Five alternative courses of action are discussed in that document on an equal basis with the proposed action. From these six possible courses of action, a final grazing management program will be selected. The impacts of each alternative have been analyzed for the four-year implementation period, 1981 through 1984 (the short term) and for a 25-year period following implementation, 1985 to 2010 (the long term).

The proposed action (A) would adjust the current grazing management to improve range condition by 2010, with corresponding improvement in erosion condition and in some wildlife habitats. Some reductions would occur in ranch income in the short term, but the long-term effect on ranch income would be positive. The limited action alternative (B) would continue the present management program with the same adjustment in the current permitted livestock use as the proposed action. Range condition would improve slightly, with some decrease in the amount of forage available to livestock in the long term. Wildlife habitat would be essentially unchanged, hunting opportunities would be somewhat poorer, and the short-term economic impacts would be the same as those of the proposed action. The alternative to improve watershed values and wildlife habitat (C) would reduce livestock use and implement systems to improve watershed, recreation opportunities, and wildlife habitats. Erosion condition, ecologic range condition, and hunting and fishing opportunities would improve; however, access to recreation areas could be impeded by added fences. Small ranch income would be reduced. The alternative for accelerated livestock forage development (D) would implement vegetation manipulation practices to remove or suppress undesirable plants and to improve range condition. Short-term reductions in available grazing would be offset by long-term increases. Erosion condition would not change significantly. Adverse effects would occur on wildlife habitat, recreation access, and hunting and fishing opportunities. Overall ranch income would increase slightly in the long term. The no action alternative (E) would "freeze" the current grazing management program at its present level, causing a slight decline in erosion condition and a substantial decline in range condition. Wildlife habitats would be unchanged. Ranch income would appear unchanged "on paper"; however, the amount of available forage probably would decrease, so that ranch income also could decrease. The alternative to eliminate livestock grazing from public lands (F) would bring about some improvement in erosion condition, slight improvement in ecologic range condition, and significant improvements in wildlife habitats and recreation opportunities; however, possible fences could impede recreation access. Ranch income would be reduced significantly. The effect of the proposed action or any of the alternatives on the regional economy would be insignificant.

The draft EIS and its accompanying map supplement should be used in conjunction with this final EIS, which contains modifications and corrections to the draft and the comments received during the public review process. For further information, contact R. Gregg Berry, Project Manager, Butte District Office, Bureau of Land Management, P.O. Box 3388, Butte, Montana 59701; telephone (406) 723-6561, extension 2419. Comments must be received by September 30, 1980.

AUGUST 1980

COMMENTS REQUESTED

Comments on the draft EIS have been requested from the following agencies and interest groups:

FEDERAL AGENCIES

Advisory Council on Historic Preservation
Department of Agriculture
 Forest Service
 Soil Conservation Service
Department of the Army
 Corps of Engineers
Department of Commerce
Department of the Interior
 Bureau of Indian Affairs
 Bureau of Mines
 Fish and Wildlife Service
 Geological Survey
 Heritage Conservation and Recreation Service
 National Park Service
 Water and Power Resources Service
Environmental Protection Agency
Science and Education Administration

CONGRESSIONAL OFFICES

Office of Congressman Marlenee
Office of Congressman Williams
Office of Senator Baucus
Office of Senator Melcher

STATE AGENCIES

Montana Association of State Grazing Districts
Montana Department of Community Affairs
Montana Department of Fish, Wildlife, and
 Parks—Bozeman Office
Montana Department of Health and Environmental
 Services, Water Quality Bureau
Montana Department of State Lands
Montana Governor's Office
Montana Historical Society
Old West Regional Commission

COUNTY COMMISSIONERS AND PLANNING BOARDS

Beaverhead County
Deer Lodge County
Madison County
Silver Bow County

OTHER ORGANIZATIONS

Ada Fish and Game League (Idaho)
Alaska Basin Grazing Association
American Fisheries Society
American Horse Protective Association
Audubon Society
Bannack Grazing Association
Big Hole Grazing Association
Defenders of Wildlife
Friends of the Earth
The Humane Society of the United States
Garden Creek Stock Association
Izaak Walton League of America
Madison Valley Holding Pasture Association
Montana Farm Bureau
Montana Farmers Union
Montana Historical Society
Montana Public Lands Council
Montana Stockgrowers Association
Montana Wilderness Association
Montana Wildlife Federation
Montana Woolgrowers Association
Moose Creek Grazing Association
Moose Camp Creek Stock Association
National Council of Public Land Users
Natural Resources Defense Council
Nevada Outdoor Recreation Association, Inc.
Northern Plains Resource Council
Oregon Environmental Council
Pacific Legal Foundation
Robb Creek Cattle Association
Sierra Club
Snowline Grazing Association
Society for Range Management
Wild Horse Organized Assistance
Wilderness Society
Wildlife Management Institute
Wildlife Society, Montana Chapter
Wise River Stock Association

SUMMARY

(This is a revision of the Summary section that appeared in the draft EIS.
Changed portions appear in bold type.)

The Mountain Foothills Environmental Impact Statement (EIS) involves the Bureau of Land Management's Dillon Resource Area, encompassing the four southwestern counties of Montana: Beaverhead, Deer Lodge, Madison, and Silver Bow. This study area comprises approximately 7 million acres, of which about 955,000 acres (14 percent) are administered by the Bureau of Land Management (BLM).

Initial soil and vegetation inventories and water quality and quantity studies began in 1976. Throughout the entire planning process and EIS preparation, information and concerns were solicited from ranchers, public land use groups, conservation organizations, special interest groups, service organizations, conservation districts, local universities, and private citizens. Further information was obtained through close coordination with other land and resource management agencies or individuals, including the Forest Service and the Soil Conservation Service, U.S. Department of Agriculture; the Montana Department of State Lands, the Montana Department of Natural Resources, the Montana Department of Fish, Wildlife, and Parks, the U.S. Science and Education Administration, county planning boards, and private landowners.

From May 6 through May 24, 1979, five open house workshops were held in the towns of Dillon, Butte, Sheridan, Ennis, and Lima. In addition, more than 1,100 brochures that outlined the major resource issues and requested public input were distributed to a wide cross-section of the public. More than 100 written comments were returned.

On the basis of the resource inventories and the comments and information received through the public participation process, a comprehensive land use plan was developed. This multiple use plan is identified as the proposed action in this statement. In addition, five alternative courses of action have been analyzed on an equal basis. From these six possible courses of action, decision-makers will be able to select the final management direction. The significant issues identified by the public and resource specialists during the analysis process have been incorporated into one or more of the alternatives. To what degree the issues are resolved depends on the management program selected. It is anticipated that the final decision will include a combination of several alternatives.

Several major areas of controversy raised by the public or identified by the resource specialists

needed to be addressed in this statement. Wildlife is a major concern in the study area because of the quality, variety, and abundance of habitat. Elk populations are among the highest in the state, and moose, deer, and antelope are other big game animals highly sought by hunters from throughout the United States.

One of the more significant wildlife issues is the need to improve or maintain wildlife habitat in the face of conflicting resource demands, particularly livestock grazing and off-road vehicle use. Protection of the habitats of the threatened grizzly bear and the endangered northern Rocky Mountain wolf, peregrine falcon, and bald eagle is also a major concern.

Approximately 150 miles of perennial streams on public lands provide fishing opportunities in the study area. The Madison and Big Hole Rivers are nationally known "blue ribbon" fisheries whose headwaters are located here. Because of the high quality of fishing, the study area provides about 40 percent of all fishing use within Montana.

Riparian surveys indicate that 47 percent (211 miles) of the 450 miles of stream bank habitat in the study area is in unsatisfactory condition. This adversely influences downstream fishery production and on-site habitat values. Management decisions made to improve this situation will affect livestock grazing.

The deteriorating condition of the rangeland is another major issue. Of the 955,000 acres of public lands in the study area, approximately 30 percent (282,000 acres) is in poor to fair ecological condition, while 54 percent is in good to excellent condition. Sixteen percent of the rangeland was not classified because those areas are primarily wasteland or are otherwise unsuitable for livestock grazing. The trend in rangeland condition is improving on about 13 percent of the public lands, while 27 percent is declining. Of the remainder, about 44 percent is in a static situation and 16 percent is undetermined.

Past grazing practices are primarily responsible for the present rangeland condition and trend. Some of the problems that exist are due in part to authorization of grazing too early in the spring, failure to provide enough rest during the growing season, and overuse of the forage by grazing animals.

About 150,000 acres have been classified in critical or severe erosion condition, with an apparent downward trend on several thousand acres in

moderate erosion condition. Other watershed concerns include some severely eroded stream channels, soil compaction in certain areas, and present livestock management practices that conflict with the riparian and water quality management objectives of increasing ground cover and vegetation density in order to reduce runoff and erosion.

Several of the alternative courses of action would reduce the current permitted livestock use (125,377 AUMs) within the entire study area by an average of 12.2 percent, to an initial stocking level of 110,033 AUMs. This is a major point of controversy with the local livestock industry. If this reduction were implemented in conjunction with intensive grazing management, it would reverse the declining trend in range condition, improve wildlife habitat, and stabilize the watershed.

The six alternative courses of action that are analyzed in this statement, and from which the final grazing management program will be selected, are (A) the proposed grazing management program, (B) limited action, (C) improved watershed values and wildlife habitat, (D) accelerated livestock forage development, (E) no action, and (F) elimination of livestock grazing from public lands in the study area.

ALTERNATIVE A: THE PROPOSED GRAZING MANAGEMENT PROGRAM

The proposed action includes (1) continued operation of 26 existing AMPs, (2) revision of 22 existing AMPs, (3) implementation of 138 proposed AMPs, (4) less intensive grazing management on 281 allotments where AMPs are not proposed, and (5) continuation of unallotted status (not allotted to livestock grazing) on approximately 41,190 acres of public land.

Riparian habitats were considered by excluding grazing from 25.9 miles of stream, of which 20.1 miles are currently ungrazed, and implementing grazing systems designed to meet riparian needs on 70 percent (305 miles) of the total riparian habitat in the study area.

Acreages of good and excellent ecological range condition are projected to increase by 16 percent by the year 2010, while the acreage in poor and fair condition would decrease by 31 percent. At the same time, there would be a significant improvement in erosion condition, with a 14 percent reduction in sediment yield.

The proposed initial livestock use has been established for each allotment. Overall, this amounts to a 12.2 percent reduction in AUMs from the current permitted use. This stocking level takes into consideration livestock grazing suitability, range condition, vegetation allocations to wildlife, and maintenance of or improvement in watershed condition. Future adjustments up or down would be based on records of actual use, studies of trends in range condition, range utilization studies, and guidance from the Management Framework Plan.

On 114 allotments, AUM allocation increases would total 7,281 AUMs. Proposed decreases on 251 allotments, totaling 22,625 AUMs, would make it necessary for operators to seek alternative sources of livestock forage or supplemental feed. It is projected that by the year 2010 there would be a 13 percent increase in livestock AUMs over the current permitted stocking rate.

The total implementation cost for range developments including survey, design, and work-months is substantial, amounting to \$1,525,000.

Elk winter-spring habitats would improve moderately, but summer-fall habitats would remain 40 to 50 percent unsatisfactory, a major residual adverse impact. The condition of mule deer winter-spring habitats, antelope summer-fall habitats, waterfowl nesting, and sage grouse habitats would improve substantially. Riparian habitat in satisfactory condition would improve from 53 percent (241 miles) to 70 percent (305 miles). Largely satisfactory habitats would continue for mule deer and elk summer-fall use, antelope winter-spring use, and yearlong use by moose and bighorn sheep.

In the short term, the income of 137 of the 216 ranch operations would be reduced by a total of \$322,380 annually. Of the 137 operations, 39 would sustain reductions in annual net ranch income averaging 16 percent. The average reduction in annual net ranch income for the other 98 would be less than 3 percent. Also in the short term, 46 ranch operations would have increased income totaling \$38,980 annually, while 33 ranch operations would not be affected.

In the long term, the income of 103 ranch operations would continue to be reduced by a total of \$179,780 annually. However, increased income accruing to 101 ranch operations would total \$232,760. Twelve ranch operations would not be affected. The overall impact on income for the affected ranch operations would be positive by

the year 2010, with the total increase amounting to \$52,980. **Recreation/wildlife-related annual income would increase by about \$181,000 (57 percent) from the existing situation.**

ALTERNATIVE B: LIMITED ACTION

This alternative assumes continued operation of the 48 existing AMPs in the study area. Existing range developments would be maintained, and a minimal number of new range developments would be constructed in connection with 22 existing AMPs identified for revision. Livestock use would be adjusted to the new stocking rate of 110,033 AUMs, as described in the proposed action.

This alternative also assumes no change in the status of the non-AMP and unallotted areas and no implementation of proposed AMPs. Range use supervision, soil/vegetation monitoring, and project development would continue at the present level.

Range condition would improve less under Alternative B than under any other alternative except the one proposing no action (Alternative E). The acreage of range in poor and fair condition would **decrease by 7 percent**, while the acreage in good to excellent condition would **increase by 4 percent**. Sediment yield would decrease by 9 percent in the long term. The AUMs projected to be harvested by livestock by the year 2010 would be 5 percent less than the current permitted use.

All wildlife habitats would remain essentially unchanged, with some improvement in elk winter habitat. The quality of hunting opportunities would exhibit a moderately adverse impact in the long term.

The total implementation costs would be minimal in comparison to the other alternatives; the cost would be about \$202,000.

The short-term economic impacts would be the same as those described for the proposed action. In the long term, the income from 124 ranch operations would be reduced from the current level by a total of \$275,650 annually. This is an average reduction in annual net ranch income of a little more than 6 percent. Also in the long term, 59 ranch operations would receive income increases totaling \$74,130 annually. This would somewhat offset the total reductions in income for the study area, so that the 183 ranches would sustain an overall reduction in income of \$201,520 annually. **Recreation/wildlife-related income would increase by \$29,900 (9 percent) annually.** The direct

and indirect economic impact on the regional economy would be insignificant.

ALTERNATIVE C: IMPROVED WATERSHED VALUES AND WILDLIFE HABITAT

This alternative proposes a selective level of livestock use of 74,785 AUMs, which is 50,592 AUMs less than the existing stocking level. It also assumes implementation of range developments and grazing systems that would improve watershed and recreation values and wildlife habitat, and it assumes that no forage produced in the future in excess of the current situation would be allocated to livestock.

Lower stocking levels for some allotments proposed by this alternative are based on the following criteria: (1) elimination of livestock grazing from April 1 through June 15, (2) allocation of vegetation on most areas of critical or severe erosion condition to watershed, (3) implementation of grazing systems that incorporate an additional rest period, (4) pasture capacity stocking, (5) allocation of vegetation on the basis of the amount and type of fish and wildlife habitat, and (6) exclusion of grazing to resolve use conflicts or improve recreation opportunities in specific recreation areas.

Each allotment grazed in April, May, and June was analyzed to determine if grazing season adjustments were necessary to meet watershed and wildlife objectives. As a consequence, under this alternative the proposed initial stocking level would be reduced by 1,692 AUMs by the removal of livestock during all or part of the period from April 1 through June 15.

Another factor considered in the development of the reduced level of livestock use was the wildlife habitat needs within each allotment. Livestock numbers would be reduced or eliminated in specific key wildlife areas through revision in existing grazing systems, implementation of new systems, or total livestock exclusion. These changes would account for the deduction of 20,905 additional AUMs from the stocking level proposed in Alternative A.

Approximately 52 percent of the total reduction from the current permitted use in this alternative is based on adjustments for wildlife needs. Whenever the need for livestock reduction was identified for the benefit of both watershed and wildlife in the same geographic area, only the larger reduction figure was used in calculating stocking rates in order to avoid double counting.

This alternative would be exceeded in the improvement of wildlife habitats only by the alternative to eliminate livestock grazing. Major improvement would occur in mule deer winter-spring habitats, elk habitats, antelope summer-fall habitats, waterfowl nesting areas, and all sage grouse habitats. Riparian habitats would improve from 53 percent (239 miles) in satisfactory condition to 92 percent (414 miles).

So that riparian habitats could be improved from unsatisfactory to satisfactory condition under this alternative, riparian habitat would be given special consideration through (1) protective fencing and exclusion of grazing on 39.2 miles of stream as opposed to 20.1 miles ungazed at present, (2) stocking reductions totaling 4,879 AUMs, and (3) changes in 34 grazing systems that were outlined in the proposed action.

Sediment yields in the study area would total 1,548,300 tons per year by the year 2010, down 38 percent from the existing situation. Except for the alternative to eliminate livestock grazing, this alternative would effect the greatest improvement in erosion condition.

It is projected that lands in good to excellent ecologic range condition would increase by 17 percent, while lands now in poor to fair condition would increase by 32 percent.

The quality of hunting and fishing opportunities would be significantly improved; however, some recreation access would be made more difficult because of additional fence construction.

On 325 allotments, a total decrease of 54,330 AUMs would make it necessary for ranch operators to seek alternative livestock forage. There would be a total increase of 3,738 AUMs on 97 allotments. The initial stocking level would be 40 percent less than current permitted use, with no increases allocated to livestock use in the long term.

The total implementation cost would be significant, amounting to \$1,805,000. In both the short and long terms, 190 ranch operations would sustain reductions in income totaling \$807,520 annually. The impact on 45 small commercial ranch operations would be most significant, with net ranch income being reduced an average of about 20 percent from current levels. Probably 15 to 20 of those operations with higher than average impacts would be forced out of business, or the operator and his family would be forced to seek supplemental off-ranch employment. Thirteen ranch operations would share a small increase in income totaling \$6,140 annually.

Recreation/wildlife-related regional income would increase by \$257,000 (81 percent) annually. Direct and indirect economic impact on the regional economy would be insignificant.

ALTERNATIVE D: ACCELERATED LIVESTOCK FORAGE DEVELOPMENT

This alternative would provide for accelerated livestock forage development by the use of extensive vegetation manipulation practices (sagebrush spraying, prescribed burning, and reseeding). The primary objectives would be to remove or suppress undesirable plant species, to increase livestock forage production, and to accelerate range condition improvement. This alternative projects 37,397 livestock AUMs more than the 125,377 AUMs of current permitted use, or a stocking level of 162,774 AUMs. All forage produced in the future in excess of the current situation would be allocated exclusively to livestock after proper use factors were considered.

Range developments for this alternative would be the same as those for Alternative A, the proposed action, except for the number of acres prescribed for vegetation manipulation. Under Alternative D, there would be an additional 24,442 acres of prescribed burning, 34,360 acres of sagebrush spraying, and 13,152 acres of plowing and seeding or interseeding. It is assumed while public land was unavailable for grazing during rest or deferment following land treatment, the necessary grazing would be furnished by nonfederal lands. The temporary loss of AUMs would be a short-term impact, and the land made unavailable could be restored to use in approximately two years after land treatment.

The greatest amount of land disturbance, 68,974 acres, would result from range developments associated with this alternative. Erosion losses from these activities would total 1,096,348 tons. However, the overall annual sediment yield would be reduced by 13 percent in the long term, to 2,243,300 tons. No significant erosion condition changes would occur.

Of all the alternatives, this action would bring about the greatest improvement in ecologic range condition. Lands in excellent and good condition would improve 20 percent, while lands in poor to fair condition would decrease by 38 percent.

Major declines in habitat condition would occur on mule deer summer-fall habitats, elk and antelope winter-spring habitats, bighorn yearlong habitats, and all seasonal sage grouse habitats.

Deer, elk, riparian, and waterfowl habitats would remain in largely unsatisfactory condition.

Significant adverse impacts to the quality of hunting and fishing opportunities would occur. Recreation access would be significantly reduced; at the same time, significant decreases in naturalness and in opportunities for primitive recreation and solitude would occur.

On 226 allotments, livestock use reductions would amount to 14,627 AUMs. Increases totaling 52,001 AUMs would involve 216 allotments. The initial stocking level and the AUMs projected to be harvested by livestock after 25 years would be the same (162,774 AUMs), or 30 percent above the current permitted use.

Except for the fencing costs that could be incurred on a worst-case basis under the alternative to eliminate livestock grazing, this alternative would have the greatest implementation costs, \$2,657,555.

Even with accelerated livestock forage development, 100 ranch operations would sustain income reductions totaling \$165,810 annually in both the short and long terms; however, the average reductions in net ranch income would be less than 5 percent. The annual income of 107 ranch operations would be increased by a total of \$399,660 over current levels. This is an average increase in annual net ranch income of about 7.5 percent.

Overall, ranch income would increase \$233,850 annually in the study area. Economic impacts would be the same for the short term and the long term. **An annual decrease of \$63,300 (20 percent) would occur in regional income related to recreation and wildlife.** Again, as with the other alternatives, the direct and indirect impact on the regional economy would be insignificant.

ALTERNATIVE E: NO ACTION

A "no action" alternative is required by the Council on Environmental Quality (CEQ), the Department of the Interior, and the Bureau of Land Management. This no action alternative is defined in the *BLM Manual*, section 1792.44E8, as the "decision to forgo the project and do nothing different." It is included in this statement for comparison purposes, and it assumes continuation of the present grazing management program frozen at the point in time that the proposal is being written. The current permitted use is 125,377 AUMs.

Changes anticipated for the future are not included, nor would needed adjustments in livestock use levels, as identified during the recent inventory, be included. Revision of existing AMPs would not occur, nor would the gradual implementation of proposed AMPs. This alternative is described and analyzed on the basis of the present permitted use.

With the continuation of present levels of livestock use, a slight decline in erosion condition would occur. Increases in critical and severe erosion condition, from 134,648 to 157,340 acres, or a 14 percent increase, would be worse than for any of the other alternatives. No land disturbance for range developments is projected. Sediment yield would be the highest of all alternatives, 2,583,700 tons per year, which is essentially a continuation of the present losses. Peak discharges and annual runoff would increase.

A substantial decline in range condition would occur. Lands in excellent and good condition would decrease by 4 percent, while lands in poor and fair condition would increase by 9 percent.

All wildlife habitats would remain essentially unchanged; largely unsatisfactory habitats would continue for mule deer and elk winter-spring use, antelope summer-fall use, waterfowl nesting, and all sage grouse use periods. Elk summer-fall habitats would remain 40 to 50 percent unsatisfactory.

The same number of BLM AUMs would be authorized in the future as at present; therefore, at least "on paper," there would appear to be no local or regional economic impacts. However, the actual amount of forage available for livestock would probably decrease, causing ranch operators to reduce livestock numbers; thus, there would probably be some reductions in real ranch income.

Impacts on recreational/wildlife-related income would be insignificant, an increase of \$19,800 (6 percent).

ALTERNATIVE F: ELIMINATION OF LIVESTOCK GRAZING FROM PUBLIC LANDS

This alternative assumes elimination of permitted livestock grazing on approximately **955,000** acres of public lands within 518 allotments, for a total livestock use reduction of 125,377 AUMs. No new AMPs would be implemented, all existing AMPs would be terminated, and no range developments (with the possible exception of fencing) would be maintained or constructed unless

necessary for other resource programs such as wildlife or watershed.

Either a large number of employees would be required to continually monitor all tracts of public lands to document actual numbers and periods of time that livestock were on public lands in order to successfully pursue trespass cases, or an extensive amount of fencing would be necessary to prevent livestock trespass. The exact amount of fencing needed has not been identified for the entire study area, although the magnitude of a public land fencing effort would be substantial.

Seven townships were identified as typical with regard to fencing needs. On the basis of this sample, the new fencing necessary to totally exclude grazing from public lands was calculated, on a worst-case basis, to be about 2,700 miles. Additionally, an estimated 260 miles of existing fences would need to be altered to meet deer and antelope specifications. The total cost of these developments would be approximately \$7 million.

This alternative would result in the greatest improvement in erosion condition; however, plant stagnation could arrest improvement at a lower level than might be expected from plant growth stimulation by periodic grazing. Sediment yields would be significantly decreased, by 67 percent. Peak discharges and annual runoff would also be reduced.

Ecologic range condition would improve slightly, with poor and fair condition range decreasing by 10 percent and good to excellent condition range increasing by 5 percent. Most wildlife habitats would improve to satisfactory condition.

There would be significant increases in naturalness and in the quality of opportunities for hunting, fishing, and solitude, but there would be significant use conflicts regarding access.

Elimination of livestock grazing would reduce the income of all 370 ranch families that lease BLM grazing. The overall net reduction in income to the 216 ranch operations would total \$1,862,680 annually, a 13 percent reduction from the present total income level. Twenty-nine ranches are from 21 percent to 60 percent dependent on BLM grazing. At least 18 of these would probably be forced out of business. Even with an income reduction of about \$2 million, the direct and indirect impact on the regional economy would not be significant.

Recreation/wildlife-related regional income would increase by \$320,500 (101 percent) annually.

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INTRODUCTION

This *Mountain Foothills Grazing Management Program Final Environmental Impact Statement* (EIS) incorporates by reference the draft EIS, which was published in March 1980.

The first section of this final document describes the public involvement that has taken place during the preparation of the EIS, including public meetings that have been held and letters we have received. Comments from the meetings are summarized and letters are reprinted in the "Public Comments" section, and our responses to those comments are given in the "Responses to Comments" section.

The second section of the document contains corrections and revisions to the draft EIS. These changes have been made to correct errors, to reflect changes in policy or guidance, and to respond to comments or questions from the public.

The third section is an added Appendix, which explains the methodology used to arrive at the information on recreation/wildlife-related economics that has been incorporated into several revised pages in this final EIS.

PROBATION DEPARTMENT

STATE OF CALIFORNIA

IN SENATE
January 11, 1961
REPORT OF THE
COMMISSIONER OF THE
PROBATION DEPARTMENT
FOR THE YEAR
1960

PUBLIC INVOLVEMENT

The Mountain Foothills Draft Environmental Impact Statement (EIS) was prepared by Dillon Resource Area, Butte District, and Montana State Office specialists with expertise in range management, wildlife, recreation, forestry, landscape architecture, archaeology and history, soils, watershed management, hydrology, geology, and economics. Writing of the EIS was begun in April

1979; however, a complex process over a three-year period preceded the writing phase. This process included resource inventory, land use planning, public and other agency coordination, and preparation of allotment management plans (AMPs). Consultation and coordination with agencies, organizations, and individuals occurred throughout the preparation process.

CONSULTATION

PRELIMINARY CONSULTATION

Update and revision of the existing land use plan for the EIS study area (the Management Framework Plan, or MFP) began in 1977. Resource information that had been gathered in the concurrent development of AMPs was incorporated into the resource data base used in the land use planning process. During this updating, federal, state, and local organizations were contacted for assistance. Public land users and other interested groups and individuals were notified by letter and news release that planning system updates had been initiated. Public information meetings were held in late 1978 and early 1979 to present the multiple use recommendations from the MFP. These meetings were held in Dillon, Butte, Sheridan, Ennis, and Lima.

Preparation of AMPs for the study area began in 1976. Every effort was made to contact all livestock operators during preparation of the draft AMPs. All AMPs were available for review by livestock operators and public interest groups. All livestock operators in the Dillon Resource Area were notified by letter of the effect, if any, of the proposed AMPs on their operations. The AMPs will remain in draft form until final decisions are made in 1981 on an individual allotment basis. Continuing coordination and cooperation with the affected livestock operators will be necessary throughout implementation of the proposed AMPs.

PUBLIC INVOLVEMENT AND CONSULTATION DURING DEVELOPMENT OF THE EIS

A news release in October 1975 announced initiation of the planning process that would lead to preparation of grazing EISs on all public lands in Montana. In preparation for the Mountain Foothills EIS, meetings were held with various grazing associations, the Montana Public Lands Council, the Montana Stockgrowers Association, several chambers of commerce, and other public agencies.

The Montana state historic preservation officer reviewed the draft EIS and said that the document adequately addressed the proper procedures for compliance with Executive Order 11593 and with section 106 of the Historic Preservation Act. He indicated his willingness to work with the BLM on a case-by-case basis during implementation of the program.

Informal consultation with the U.S. Fish and Wildlife Service regarding threatened and endangered species took place throughout the preparation of the draft EIS. The Bozeman office of that agency reviewed all draft sections pertaining to threatened and endangered species and indicated that consideration of such species was adequate.

PUBLIC COMMENTS ON THE DRAFT EIS

After the draft EIS was filed with the Environmental Protection Agency on March 21, 1980, and released to the public, a period of 52 days was allowed for public review and comment. The Federal Register of March 26, 1980, carried a notice of availability and announced public meetings at Butte, Dillon, Sheridan, and Lima, Montana, during the week of April 21.

A news release issued on April 7, 1980 announced the availability of the draft EIS and gave a summary of the document. This release, which gave the times and locations for the public meetings, was sent to two national wire services, nine daily newspapers, 27 weekly newspapers, 32 radio stations, and seven television stations throughout western Montana.

Copies of the draft EIS were sent to organizations and individuals listed and to all livestock operators with existing, revised, or proposed allotment management plans. Approximately 700 copies of the draft EIS were distributed. Public reading copies were available at BLM offices in Washington D.C., Billings, Butte, and Dillon, Montana, at several Montana universities and colleges, and at public libraries in Butte, Great Falls, and Helena.

Each public meeting had a three-part format consisting of a 20-minute slide presentation that gave a general overview of the proposed action and the alternatives and discussed the attendant environmental consequences, a question-and-answer period, and a time for statements from the public. Twenty-two individuals asked questions or made statements at the four public meetings. A list of those who spoke is included in the following section.

A professional court reporter prepared a verbatim transcript of each public meeting. These transcripts have been sent to the director of the BLM. Comments from the transcripts have been summarized in this document; they appear under numbers 1 through 20 in the following pages. The comments numbered consecutively from 21 are those received in letters; the 34 letters received are reprinted in the pages following the comments from the meetings. Our responses to all oral and written comments appear following the reprinted letters.

Copies of the final EIS will be forwarded to the Secretary of the Interior and to the Environmental Protection Agency.

SPEAKERS AND LETTER WRITERS

Speaker Number	Name	Meeting Location and Date
1	Chuck Hitch	Butte, April 21
2	George Chaffee	Butte, April 21
3	John Conover	Dillon, April 22
4	Jim Hagenbarth	Dillon, April 22
5	Charles Ralston	Dillon, April 22
6	Ben Slanger	Dillon, April 22
7	Tom Kambich	Dillon, April 22
8	Bill McGinnis	Sheridan, April 23
9	Lawrence Grabinski	Sheridan, April 23
10	Don Cox	Sheridan, April 23
11	John Allhands	Sheridan, April 23
12	Chuck Wood	Sheridan, April 23
13	Eileen Jensen	Sheridan, April 23
14	Mr. Conklin	Sheridan, April 23
15	Matt Urick	Sheridan, April 23
16	Les Gilman	Sheridan, April 23
17	Pat Aguilar	Sheridan, April 23
18	John Anderson	Sheridan, April 23
19	Dean White	Sheridan, April 23
20	Boyd Briggs	Lima, April 24
21	Richard Wilson	Lima, April 24
22	Bernard Harkness	Lima, April 24

Letter Number	Name	From
1	Dr. Robert Archibald	Montana Historical Society, Helena, MT
2	Louis S. Wall	Advisory Council on Historic Preservation
3	Alfred W. Schulmeyer	National Park Service, Wisdom, MT
4	R.D. Plowman	Agricultural Research, Logan, UT
5	Donald Aldrich	National Wildlife Federation
6	Kit C. Walther	Montana Water Quality Bureau, Helena, MT
7	Kenneth D. Baber	Bureau of Mines, Spokane, WA
8	F.G. Crampton	Dillon, Montana
9	W.S. McGinnis	Conchas Ranch, Las Vegas, NM
10	John L. Wilson	The Montana Environmental Information Center
11	Robert Borden	Alder, MT
12	Phillip J. Arges	Arges Livestock Co., West Sacramento, CA
13	Hagenbarth Livestock	Dillon, MT
14	Anthony V. Martin	Trout Unlimited, Rocky Mountain River Rats Chapter
15	Noel Rosetta	Sierra Club Consultant, Helena, MT
16	George B. Chaffee	Clancy, MT
17	Ross Bonner	Trout Unlimited, Bozeman, MT
18	Rich Franko	Franko Ranch Inc., Melrose, MT
19	Holley R. Smith	Beaverhead County Planning Board
20	E. Maynard Smith	Glen, MT
21	Joyce Rieman	Ballantine, MT
22	Mrs. Holley Smith	Glen, MT
23	John Conover, Jr.	Dillon, MT
24	Hugh Zackheim	Montana Wildlife Federation
25	C.E. Hitch	Montana Public Lands Council
26	Daniel A. Poole	Wildlife Management Institute, Washington D.C.
27	Dick Loper	Old West Grazing EIS Monitoring Project, Lander, WY
28	Hank Fischer	Defenders of Wildlife
29	Lester A. Kish	Gallatin Wildlife Association
30	John Maki	Cooperative Extension Service, Dillon, MT
31	Tom Coston	Forest Service, Missoula, MT
32	Fletcher Newby	Montana Department of Fish, Wildlife, and Parks, Bozeman, MT
33	Larry Rather	Bozeman, MT
34	Bill Cunningham	The Wilderness Society

COMMENTS FROM PUBLIC MEETINGS

1 (Speaker 1): Under Alternative D, the accelerated livestock forage development alternative, will all increased forage production be allocated to livestock?

2 (Speakers 1, 2, 7): The EIS seems to imply that the new grazing management program will be implemented immediately. Is this true? In other words, what is your implementation schedule and what are the possible constraints affecting range improvements?

3 (Speaker 1): Will the proposed livestock use adjustments be affected by litigation currently before the Tenth Circuit Court in New Mexico regarding the Rio Puerco Grazing EIS?

4 (Speaker 3): The existing season of use dates shown in Appendix 8 differ from the dates shown on my present lease. Why is this?

5 (Speaker 4): Is there any way to match the information in Appendix 20 with a particular grazing allotment?

6 (Speaker 5): Why isn't the Deep Creek Ski Area mentioned in the EIS? The clearing of the ski area and a nearby clearcut actually have increased forage production in Allotment 0339, and yet the EIS proposes livestock use reductions. Why is this?

7 (Speaker 3): What is the rationale behind fence alterations for wildlife?

8 (Speaker 11): What landownerships are included in the "other acres" column of Appendix 1?

9 (Speaker 11): How were the 25-year projections made for livestock forage production (Appendix 1 of the draft EIS) and range condition (Appendix 3)?

10 (Speaker 12): Livestock is the basis of the economy in this valley, so why is wildlife given more importance in this document than livestock?

11 (Speaker 13): On your map you show the conditions of private ownership. What right have you to publicize such information? Isn't your right only to show what is on BLM land?

12 (Speaker 16): The EIS discusses a proposed action and five alternatives. Will the final decision involve selecting one of these six options in its entirety?

13 (Speaker 10): Who is the decision maker responsible for revising and implementing the new AMPs? What means of protest or appeal are available to a dissatisfied operator?

14 (Speaker 17): Would the BLM be willing to meet with affected livestock operators to go over the specifics of the proposed grazing management program?

15 (Speaker 18): Are the allotment management plans in the EIS final, or can they be modified?

16 (Speaker 16): How did you determine the boundary between public and private lands in the study area? Your maps show range condition and erosion potential, for example, on some private lands but not on others. Why is this?

17 (Speakers 8, 12, 19): The relationship of your erosion condition map to the range condition map is confusing. How is it possible that some areas can be depicted "fair to poor" in range condition, yet "stable" in erosion condition?

18 (Speaker 20): How were the meetings on the EIS publicized?

19 (Speaker 20): Are the proposed reductions in livestock use based primarily on range condition?

20 (Speaker 20): Does the draft EIS describe which specific areas are being recommended for reductions in livestock use?

1a



MONTANA HISTORICAL SOCIETY

HISTORIC PRESERVATION OFFICE

225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

April 22, 1980

Mr. R. Gregg Berry, Project Manager
Butte District, BLM
Box 308
Butte, MT 59701

Dear Mr. Berry:

I have reviewed the Mountain Foothills Grazing Management Impact Statement. While it is not possible to determine the exact number and types of cultural resources which will be impacted by the implementation of the proposed alternative, the EIS adequately addresses the proper procedures for compliance with Executive Order 11593, and Sec. 106 of the Historic Preservation Act as in 36CFR800.

I will be pleased to work with you on a case by case basis as the plan is implemented for the preservation of our irreplaceable historical and cultural properties.

Thank you for affording me the opportunity to review and comment on this draft statement.

Sincerely,

Robert Archibald
Dr. Robert Archibald
Acting SHPO

RA/EV/prb

2a

Advisory Council On Historic Preservation

ADVISORY COUNCIL ON HISTORIC PRESERVATION
LAKE PLAZA SOUTH, SUITE 616
44 UNION DRIVE, LEVADO
LAKEWOOD, COLORADO 80228

1522 K Street NW
Washington, D.C.
20005

April 25, 1980

Mr. R. Gregg Berry
Project Manager, Butte District Office
Bureau of Land Management
P.O. Box 308
Butte, Montana 59701

Dear Mr. Berry:

21

The Council has received and has reviewed the draft environmental statement (DES) on the proposed Mountain Foothills Grazing Management Program. We note, with concern, that the Bureau of Land Management has neglected to provide evidence of consultation with the Montana State Historic Preservation Officer, Dr. Robert Archibald, as per the Programmatic Memorandum of Agreement between our respective agencies. (Copy enclosed for your convenience.) Furthermore, BLM has neglected to address various stipulations of that document; specifically, numbers 1,2,3, and 6 either in part or in toto.

Pursuant to its responsibilities under Section 102(2)(C) of the National Environmental Policy Act of 1969, Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320), and the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800), the Council has determined that this DES is inadequate regarding our area of expertise because it does not demonstrate compliance with Section 106 as per the Programmatic Memorandum of Agreement cited above. The final environmental statement should demonstrate not only consultation with the Montana SHPO, but also compliance with the stipulations of the enclosed Programmatic Memorandum of Agreement.

2b

Page 2
Mr. R. Gregg Berry
Mountain Foothills Grazing Management Program
April 25, 1980

If you have any questions or require assistance, please do not hesitate to call Brit A. Storey of my staff, telephone number (303) 234-4946, an FTS number.

Sincerely yours,

Signed

Louis S. Wall
Chief, Western Division of
Project Review

Enclosure

3a



United States Department of the Interior

NATIONAL PARK SERVICE
BIG HOLE NATIONAL BATTLEFIELD
P. O. Box 237
Wisdom, Montana, 59761

April 20, 1980

IN REPLY REFER TO:

Mr. Jack MacIntosh, District Manager
Butte District Office
Bureau of Land Management
P. O. Box 308
Butte, Montana 59701

Dear Jack:

I have just finished reading the draft Grazing Management Program, Mountain Foothills. I have no formal comments to offer which should come from my regional office or Washington. As I was reading several points came to mind.

22

First, on page 115 and again on page 257 the reference is to Cultural Resources and properties on the National Register of Historic Places. It states that Bannack State Park is on the Register and partly on public lands. Big Hole National Battlefield is on public lands and it is an original entry on the Register. The point is minor and not worth much of a bother because there is no adjacent BLM lands.

23

Second, in some sort of a summary I would have liked a paragraph to a page summary of the USFS grazing allotments, AUM's, etc. How many allotments, how many ranches involved and how many also have BLM allotments. The absence makes the discussions of social and economic impacts less than complete, especially discussions of alternatives to the effected ranches.

24

Third, I would have liked to have a clear statement about the rights of vacationing fishermen to cross BLM lands, although allotted, for creek and stream access. Almost every day throughout the summer it is a reoccurring question from vacationers---where can I go fishing? If fishermen can cross a grazing allotment for access, are there any plans to put up some signs or designate routes? At present there is no way to distinguish private lands from public lands.

I think the questions have some validity and perhaps will be asked by others.

Sincerely

Alfred W. Schulmeyer
Year of the Visitor

Alfred W. Schulmeyer
Superintendent

4a

UNITED STATES DEPARTMENT OF AGRICULTURE
SCIENCE AND EDUCATION ADMINISTRATIONAGRICULTURAL RESEARCH
WESTERN REGION
IDAHO-MONTANA-UTAH AREA
AGRICULTURAL SCIENCE BUILDING
UMC 48, UTAH STATE UNIVERSITY
LOGAN, UTAH 84322

April 16, 1980

Mr. Michael Penfold
State Director, BLM
222 North 32nd St.
P.O. Box 30157
Billings, MT 59107

Dear Mike:

We just received the document "Mountain Foothills Grazing Management Program - Draft - Environmental Impact Statement." There are several things contained therein that give us some concern.

Starting several years ago, a memo from the past BLM Director in Montana was brought to our attention. It contained a statement to the effect that a high priority of BLM was to remove the sheep from the Centennial Mountain area. Naturally that caused USOA-AR much concern since the area in question is a very integral and important part of our Sheep Experiment Station. We have done and will continue to vigorously resist any move by BLM to force us from that withdrawal.

In 1978, the issue heated up to a considerable degree. Letters from concerned environmentalist groups went to Washington requesting that our withdrawal be revoked. Your own agency replied that such action was not necessary. I personally met with Mr. Zaidlicz on April 12, 1978, when he assured me that BLM was not trying to remove the sheep--they were more concerned with unauthorized use of vehicles in the area. At that meeting and one previously in Dillon, BLM officials asked me if we would voluntarily give up the withdrawal and then they would issue us a grazing permit for our sheep. I replied that we were distrustful of such an arrangement.

Our Associate Administrator, Dr. Kinney, met in Washington with BLM personnel. At that meeting, there was agreement that no attempt would be made to revoke the withdrawal. This was verified by a letter from Roman Koenigs to Dr. Kinney. (See memo attached)

In July of 1978, a number of us from BLM and USOA toured the withdrawal to take a firsthand look at the range conditions. It was agreed that the range was in excellent condition, which is a tribute to our prudent management of it for more than fifty years.

4b

Michael Penfold

2

Now we look at the draft, "Environmental Impact Statement," appendix 13, page 30, where BLM, in its MFP Step 1 recommends revoking the SEA withdrawal--exclude livestock and close the roads. The next paragraph gives justification for such action. It is based on the area having high potential for grizzly bear use. Conflicts with sheep could cause killing of the bear and wolf.

Final decision MFP Step 3 indicates that BLM will try to revoke the withdrawal and, failing that, will consummate an agreement with SEA.

If, in fact, BLM is basing its recommendation for such action on the "Reconnaissance Inventory of Grizzly Bear activity in the Centennial Mountain Range" by Blanchard and Knight, careful reading of that document is in order.

25

The study found:

1. No grizzly bear or sign during aerial flights in 1978 and 1979.
2. In a 45-man day, on the ground reconnaissance, one sub-adult was observed, just off our withdrawal.
3. One track was identified as a possible grizzly track.
4. One den was examined and found to have grizzly hair but not used for several years.
5. Nearly all bear sign encountered during the study period could be attributed to black bear. Grizzly sign was occasional, and past reports of the bears could not be confirmed.
6. The Centennial Mountain range by itself could not support a population of grizzlies. Although the boundary of Yellowstone Park is only 32 km away, the broad open area of human development between the park and the Centennials is probably a major deterrent to the movement of grizzlies from one area to another. The verified sighting in June, the den once used by a grizzly, and the occasional but consistent unverified reports of grizzlies indicate that grizzlies do wander into the study area but apparently do not remain.

The above are all direct quotes from the Reconnaissance Inventory report and hardly seem justification for revoking our withdrawal in favor of grizzly bears. This report, together with the fact that our herders, in more than fifty years of grazing in the Centennials, have never reported seeing a grizzly bear, would seem to offer proof that the grizzly bear is not an important factor on the Centennials.

From our perspective, it appears that BLM is not considering the needs of SEA in making its recommendations. BLM wants to eliminate sheep grazing on our withdrawal. Its reasons for this do not seem to be objective.

4c

Michael Penfold

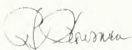
3

25

I sincerely hope this analysis is not true and reflects an over-reaction on our part. Would you please confirm your position on this most important subject?

I would repeat an earlier comment that we do wish to work with BLM in a cooperative manner and provide for true multiple use of the withdrawal lands.

Sincerely,


R. O. PLOWMAN
Area Director

Enclosures



National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036

Phone: 202-797-6800

410 Woodworth Ave.
Missoula, Montana
April 24, 1980Mr. Michael J. Penfold
Bureau of Land Management
P.O. Box 30157
Billings, Montana

Dear Mr. Penfold:

No one person, agency or generation is responsible for the deplorable condition of our public lands, but everyone must assume a share of the blame if we ignore the solution now that it has been so clearly defined in the Mountain Foothill Draft Environmental Impact Statement.

We must react without delay to such statements as:

~47% of the 450 miles of stream bank habitat is in unsatisfactory condition;

30% of the 955,000 acres of public land in the study area is in poor to fair ecological condition;

only 54% is in good to excellent condition and 27% is still declining;

150,000 acres have been classified in critical or severe erosion condition."

Managers of this basic public resource cannot ignore the ever increasing demand that will be put on these lands. Action must be tempered to save the economic losses of individuals and local communities but the cost of these considerations must not be malnutrition and starvation by the year of 2050 and on in perpetuity.

Destroying riparian zones, forage losses, silt laden streams and gullied lands must be minimized regardless of social and economic impacts.

None of the alternatives provides a solution to all the problems. Alternative P is not acceptable because it would be wasteful of renewable resources. Range scientists have been telling us that domestic grazing enhances range condition and wildlife habitat if properly supervised. Let's demonstrate it.

5b

2.

Alternative C offers a middle ground between accelerated grazing and no grazing, but it needs modification. Increased forage production should be allocated to livestock as well as to wildlife based on established goals, site suitability and type of forage. Grazing dates should be determined by suitability of soils, moisture content and vegetative type and not by commitment to a given day on the calendar. A wet spring might necessitate a late entry date and a dry summer may dictate an early removal. Land at 4500 feet elevation requires different consideration than land at 6000 feet. Range scientists do not need a cook book. They need political immunity and authority to implement plans that utilize their expertise.

With proper stocking and later entry it is possible that losses by permittees will not be as high as projected nor last for as many years. Calculating losses in pounds of beef produced rather than number of days on the range might also reduce projected financial losses.

26

The commitment to full riparian habitat potential on all ANP allotments in Alternative C is excellent. It should be the objective on all public lands. I am disturbed by the statement on p. 228 that refers to fencing of riparian zones:

"The visual impact would be highly adverse because of contrast between grazed and ungrazed areas."

Does this mean that a totally grazed, trampled and denuded landscape is preferable to one that shows fence line contrast?

It is difficult to put a price tag on improved water quality, increased ground water, flood prevention and improved season of delivery, but it is an important plus for Alternative C.

Only 5.8 miles of the 211 miles of stream banks in unsatisfactory condition would be closed to grazing under Alternative A. All riparian zones should be given the best possible treatment as soon as possible. They are our most critical zones and will be the first to demonstrate improvement under good management.

27

To leave 40 to 50 percent of the elk summer and fall habitats in unsatisfactory condition as proposed in Alternative A is unacceptable. I would also hope that fencing and water developments would not be used to hold livestock on lands now used only by wildlife.

5c

3.

It is unfortunate that present livestock operators must pay for the mistakes of many generations of land abusers but we cannot continue to draw on our land capital. We must live on the interest and now is the time to implement plans that will let future generations realize the full economic and social capabilities of their public resources. I find it easier to say this after reading the conclusion on page 299:

"The total direct and indirect impact on earning or employment in the study area would be significantly less than one percent of total estimated 1979 earnings and employment levels. Consequently, the level of overall earnings/employment impacts within the four-county study area would be insignificant during both the long term and the short term for all alternatives."

Thank you for the opportunity to review the draft and to comment. I hope the Final will emphasize the urgency of realizing the full potential of our public lands rather than serving the demands of the many special interest groups.

Sincerely,

Donald Aldrich
Donald Aldrich, Director
Region 13
National Wildlife Federation

cc: Thomas Kimball
Governor Judge
Senator Max Baucus
Senator John Melcher
Rep. Pat Williams
Rep. Ron Marlenee

6a



Department of Health and Environmental Sciences
STATE OF MONTANA - HELENA, MONTANA 59601

A.C. Knight, M.D., F.C.C.P.
Director

April 30, 1980

R. Gregg Berry
Project Manager
Butte District Office
BLM
P. O. Box 308
Butte, MT 59701

Dear Mr. Berry:

We appreciate the opportunity to review the Mountain Foothills Grazing Management Program Draft EIS and Management Framework Plan Summary.

28

Our only comment and concern is limited to riparian trend monitoring, briefly discussed in the Proposed Action. Your EIS mentions that "future adjustments" to the proposed action will be based on trends in range conditions and utilization studies (page 12). Will future adjustments also be made following riparian trend determinations? Page 239, of the EIS suggests a riparian monitoring program "could" be established to determine existing conditions and trends. Our concern is, will a riparian monitoring program be implemented on BLM allotments in the Butte District and will necessary adjustments in grazing treatments be made when unfavorable trends are determined? Will riparian trend monitoring become an operational tool of the range manager just as range condition studies are presently?

The present language regarding our concern (page 239) appears vague and noncommittal. The proposed action would provide the reader more direction if the authors generally explained the procedure that would be followed in cases where riparian conditions were determined to be deteriorating as a result of the implemented grazing program.

In keeping with the DHES/BLM Water Quality Management Agreement, we recommend that BLM implement an on-going riparian trend monitoring program on the Butte District as a Best Management Practice.

Thank you for the opportunity to review the Mountain Foothills EIS.

Sincerely yours,

K.C. Walther
Kit C. Walther
Water Quality Bureau
Environmental Sciences Division

cc: Bob Fox
Montana Operations Office
EPA - 301 S. Park
Helena, MT 59601

EEO/AFFIRMATIVE ACTION AGENCY

KCU:sh

7a



United States Department of the Interior

BUREAU OF MINES
EAST 515 MONTGOMERY AVENUE
SPOKANE, WASHINGTON 99207

May 1, 1980

Memorandum

To: District Manager, Bureau of Land Management, Butte, Montana
From: Acting Chief, Western Field Operations Center

Subject: Review of Draft Environmental Impact Statement (OEIS), Mountain Foothills Grazing Management Program, Beaverhead, Deer Lodge, Madison, and Silver Bow Counties, Montana

Thank you for the opportunity to review the OEIS for the Mountain Foothills Grazing Management Program. Our comments, confined mainly to geology and mineral resources, are offered as technical assistance. They do not comprise an official Bureau of Mines review. We would also appreciate an opportunity to review the final EIS.

29

The OEIS is well-written and generally comprehensive, with excellent maps, tables, and illustrations. The brief section on geology (page 39), however, is oversimplified. A more detailed description of one or two pages with a generalized geological map would be appropriate.

The study area and adjacent parts of southwestern Montana are one of the most highly mineralized districts in North America. Mineral resources of the district include gold, silver, platinum, base metals, a variety of non-metallic products, uranium, and geothermal energy. These resources merit discussion in the OEIS; the importance of minerals to the regional economy must be recognized and considered with other important multiple land-use aspects in development of the grazing management program.

Since mineral exploration and development are usually confined to small areas within broad tracts devoted to grazing, these land uses are generally compatible. We presume, therefore, that implementation of the proposed grazing management program would entail no new mineral withdrawals or imposition of additional restrictions on mineral entry. If so, the OEIS should include a brief statement to this effect.

Kenneth O. Baber
Kenneth O. Baber

8a

May 9, 1980

F. Gregg Berry, Project Manager
Butte District Office, B.L.M.
P.O. Box 308
Butte, Mont. 59701

Dear Sir:

Herewith my comments in regard to the Mountain Foothills Grazing Management EIS Draft dated Feb. 1, 1980.

The proposed grazing management program, Alternative A, seems alright to me provided each allotment has been carefully reviewed and studied on its merits. A severe cut in AUMs should not be proposed on any allotment that has a history of being properly managed and is found to be in excellent and good condition.

30 For instance a cut of more than 50% is proposed for Small Horn allotment #0722. No plausible reason is apparent to justify any cut at all. As noted in the Summary of the EIS Draft, proposed stocking levels took in to consideration the following criteria:

1. Suitability for livestock grazing?
(good. Inspection of 0722 will verify about 85% utilization, stockwater adequate, could be improved some, but average for mountain ranges. BLM survey showing usable as 43 AUM unrealistic)
2. Range condition?
(See page A-44, 0722 shown to be excellent and good, trend static)
3. Vegetation allocation to wildlife?
(0722 has always had ample forage available for wildlife)
4. Water shed condition?
(0722 is not critical, see page A-231, shows improved and sediment yield far below average, it appears erosion condition should be listed as "slight" instead of "moderate".)

8b

page 2.

30

Another point to be made is that 0722 is listed as an isolated or total grazing unit. There is no indication or recognition that it is but one part, or pasture, of a total 4 pasture grazing unit, all contiguous and a complete "small rancher" grazing unit consisting of over 2800 acres instead of 659 as shown. It is, of course, divided into 4 pastures for management purposes. Over protection by BLM of this allotment field would certainly jeopardize proper management of this entire grazing unit which it compliments.

Finally #0722 acreage in this pasture, see page A-7, is listed as follows:

	Acres		
	BLM	Other	Total
According to BLM map prepared for me in 1967 should be	451	208	659
Complete grazing unit (4 pastures) —	566	234	800
	566	2249	2815

I have discussed the above points with Mr. Howell of the Dillon BLM office. He informed me that some corrections in acreage of the 0722 field have been made in their record, also that the proposed AUMs had been revised back upwards partially. However, under the circumstances I feel that the proposed initial management AUMs should be at least 88 as currently permitted. I think future monitoring might well indicate some upward revision from that figure because stagnation is occurring over most of this pasture. The grass cover on it is a thick, healthy stand of the decreaser blue bunch wheat grass.

Last year a Soil Conservation Practice was implemented on this grazing unit. Also a deferred rotation grazing management plan is now in effect. Mr. Howell and the Dillon BLM office is working with us to coordinate the 0722 allotment with it.

Sincerely,

F.G. Crampton
F.G. Crampton
P.O. Box 1165
Dillon, Mont. 59725

GC/wc

9a



May 8, 1980

Mr. R. Gregg Berry
Project Manager, BLM
P. O. Box 3388
Butte, MT 59701

Dear Mr. Berry:

I certainly enjoyed the opportunity to listen to your comments and bear the response of others regarding the EIS for the Mountain foothills in Sheridan, MT on April 23, 1980.

As you requested, I will follow with the comments that I made at that meeting:

- 31 1. There seems to be some confusion in regard to correlating the erosion condition map with the range condition map. Es - erosion map for 0488 shows none but list the range in 0-25% condition. I don't understand.
- 32 2. Nowhere do I read anything about what affect mining has had on the area - stream banks, erosion, sediment, water quality, etc. Why?
- 33 3. Why wasn't each rancher sent a breakdown of what was determined on his ranch? Exact study locations; by whom? Dates and qualifications of people involved.
- 34 4. What has the study cost to date?
- 35 5. What impact will the energy crunch and inflation have on this total study? Figures based on 1978 data.
- 36 6. Has the BLM worked closely with the local SCS people?
- 37 7. Who are the 7 ranchers in the 10-15% reduction area? (Pg. 273)
- 38 8. Has the BLM considered what the overall economic effect will be if a similar program (EIS) is used by the forest service?
- 39 9. Who are the decision makers?
- 40 10. Why wasn't there an animal nutritionist involved in this study?

Continued...

9b

Page Two
Mr. R. Gregg Berry
Project Manager, BLM

May 8, 1980

- 41 11. You are making major decisions which will affect the lives of 240 ranch families (820 people) and yet you use words such as - insignificant effect on the economy, a person might seek out-side part-time employment, stocking rates probably will increase, overall reduction will be 12.2%. It appears to me that you need to be more concrete in your comments. I think the economic study should be micro vs. macro. The introduction of Butte tends to give a one-sided effect to the total economic consequences.
- 42 12. I'm still confused as to the possibility of building a fence across BLM property that fits in with a definite management program. The decision makers say yes and the field men say no. Please clarify.

Sincerely,

W. S. McGinnis
W. S. McGinnis

WSM/bjv

cc: H. C. Warren
John Robertson

10a



The Montana Environmental Information Center

* P.O. Box 1184, Helena, Montana 59601 (406) 443-2520
 * P.O. Box 8166, Missoula, Montana 59801 (406) 728-2644

5/10/80

Mr. R. Gregg Berry
 Project Manager
 Butte District BLM
 Box 308
 Butte, Montana 59701

Dear Mr. Berry:

43

I am writing to you on behalf of the 1,500 members of the Montana Environmental Information Center with regard to the Mountain Foothills EIS. First, I would like to congratulate you and your staff on the preparation of the EIS. I found the document to be informative, professional, clear and to the point.

Although I would be glad to furnish detailed comment at a future date, I feel it is most expedient to offer comment on the proposed alternatives. EIC has long strived for responsible federal management of grazing practices that accounts for watershed management and the maintenance of riparian zones. Alternative "C" in the EIS appears to be most reasonable alternative for maintaining and enhancing the long term productivity of both the grazing resource and the watershed resource. Thus we favor alternative "C", and urge the adoption of this alternative.

Sincerely,

John L. Wilson
 John L. Wilson
 Staff Coordinator

11a

R. Gregg Berry
 Project Manager
 Butte District
 Butte, Montana

Dear Sir,

I am writing this letter in ~~response~~ response to your Environmental Impact Statement.

In allotment # 0469 Beloved area, there is to be 1500 acres of sagebrush sprayed. I am opposed to any type of spraying because it causes harm to the wildlife and environment in the area plus creating a watershed problem. A real example of this is to take a look at the Upper Ruby area from Three Forks Cow Camp. Before the sagebrush was sprayed it was thick and abundant. Now after spraying look at the erosion and loss of feed to the wildlife and livestock. Also have you done any studies on the effects of the spray to ~~surrounding areas~~ surrounding areas. For example in California and Oregon, the spray has got into water supplies, causing such defects and cancers in people. That is why the more we make such spraying illegal.

Also there is proposed to spend from between \$9,000 to 31,000 of the taxpayer dollars in this allotment # 0469. I don't want any of the taxpayer money spent on an area that they have no access to. The rancher on this allotment went and got the County Road closed that went into to this area. I think of the

11b

Taxpayers are going to maintain public ground then they should have access to it.

Thank You
Robert Borden

Robert Borden
 P.O. Box 121
 Alder, MT

12a

R. Gregg Berry
 Project Manager
 Butte District

Dear Sir:

I was just fortunate enough to have been able to see a copy of your Mountain Foothills Environmental Impact Statement dated March 1980.

I would like to say that there is one project included, that infuriates me to no end. That is the Sage Spray in the sweet water on the Belmont Allotment. NO 0469. It seems to me that by now you people in charge of proper management would realize that the spraying of sage brush is a real waste of money and quite yet, a detriment to the fish and game that also use the area along with us livestock people. For safety reasons, livestock are kept out of recently sprayed areas by fencing or herding. Fish and wildlife are allowed into such areas because of obvious reasons.

I am hoping that you will reconsider your proposal to spray sagebrush in this area and look at alternatives that would be more conducive to a better environment. I am now looking for legal ways to stop this sage of the

12b

*natural environment of the area in question
but hope that maybe my small voice in
the matter will suffice enough to instigate
alternative management practice.*

*Yours truly
Phillip J. Argee
Argee Livestock Co.
RT 1 Box 1738
West Sacramento, Calif
95691.*

13a

Hagenbarth Livestock (HL)
P.O. Box 1128
Dillon, Mont. 59725
May 12, 1980

General comments on the Mountain Pothills Grazing Management
Program Draft Environmental Impact Statement.

In assessing these comments, it is imperative to recognize the school of thought from which they originate. The livestock industry in the western states has depended on federal range to prepare their products for the market place for more than one hundred years. The knowledge gained by the livestock man has been acquired through practical experience. We are grass growers and use our livestock to harvest the crop. It should be recognized by all concerned, that the basic knowledge we have can be improved by scientific studies, but can never be replaced by such studies. There is no substitute for experience. This is not to say that we are always right and never abuse the environment, rather that our comments should be given their due consideration based on the knowledge from which they originate. One must also realize these comments were made under a time frame which forbids us the opportunity to thoroughly research the data and theories exercised by the many experts who assessed the environment covered by this EIS.

- 47 HL recognizes abuse of federal range as the basic reason for the EIS. But we resoundly reject the premise in the EIS that grazing is solely responsible. Abuses by wildlife, recreation, industry, and the BLM are also responsible. HL recognizes the time and effort spent by the BLM in developing an EIS. We realize the importance of EIS approval so all can get back to work managing the environment instead of defending our reputations and credibility. HL believes that the proposed action is the only alternative which would be acceptable to both the environmentalist and the livestock industry. We are not enthused with the EIS, but are forced to recognize it as a reality.
- 48 Whether the BLM is satisfying its mandate set forth by the Taylor Grazing Act, Classification and Multiple Use Act, and the FLPMA Act is questionable. Under these acts the BLM is to manage federal range in a way which would stabilize the livestock industry dependent upon those lands.

The livestock man is proud of the land he uses. This land has been abused in some places, but is untouched compared to the West Coast and that part of the nation east of plains states. We have spent many generations protecting the environment and still satisfied the needs of the nation.

13b

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It is hard for us to follow policy dictated by refugees from an environment that their generations have totally destroyed. The rancher makes his living off the land, where as most environmentalists only recreate on the land.

The time restrictions placed on the BLM by the court had a great impact on the accuracy of the range survey. After thorough analysis, variances in certain areas which should have been observed, were negligible. Areas which were predominantly blue grama were given about as much carrying capacity as areas which were predominately needle and thread. An area which was very rocky, basically needle and thread, and had been deferred from grazing was given a carrying capacity similar to an area with more precipitation, better soil, an excellent needle and thread cover, and subject to recent grazing. The lack of variance in this survey makes it appear to be very inaccurate. To take just one survey on a given line across a 43,000 acre piece of range ground leaves something to be desired, especially since McCartney Mountain has so much diversity in soils, elevation, and localized climate. If grazing cuts actually occur based on this survey and HL contracts qualified personnel to conduct an in-depth survey of McCartney's range resources, it is doubtful whether the original survey made by the BLM would hold up in an appeal. Also, to make an accurate analysis of range trend, one ideally needs past surveys on which to base his judgement and not rely on professional judgement. There is lots of controversy within the profession.

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HL's biggest complaint lies with the use of an estimated climax plant community as a yardstick. The climax is only an estimate and no one really knows if it ever existed on a particular range site. To manage millions of acres on a premise is a mistake. The BLM admits that to reach climax on certain ranges is impossible under any management except where mechanical manipulation is possible and a climax plant community is needed. HL feels that the BLM should select realistic goals in their range management programs. They should keep all range ground in at least a static condition and improve ranges where the money will get its best return. Water development in certain areas will disperse cattle and ease abuse faster than grazing reductions.

51

It is our understanding that total livestock forage production is based on the allocation of the existing forage in relation to the estimated climax plant community. That is to say: that if you had an area with a plant community of 100% needle and thread and the climax for the area was 25% needle and thread, the BLM would only consider 25% of the needle and thread as available livestock forage. If this assumption is correct, HL strongly disagrees. In an established range, to limit total livestock forage production to the % of a certain species which is present in climatic condition is a gross waste

13c

- 51 of a resource. The range should be managed and allocated for what it is, not what it is dreamed to be. You can manage to better the range, but climax in most cases is unrealistic. Using deferred grazing to re-establish a climax plant community where desired species are non-existent is practically impossible.

- 52 Allocation of only 19% of the available forage to livestock seems rather low, but HL is not sure under proper management what % of forage can be harvested without harming plant vigor, therefore we have no basis for comment. However, HL feels proper allocation can be determined by range trend. If the range is deteriorating, a cut has to be made; if the range is improving, an increase may be warranted depending on the amount of improvement which is desirable and affordable.

- 53 Using climax to determine range condition can be very misleading to an untrained eye. (The EIS was written to satisfy the untrained eyes of most environmentalists.) A range site can have excellent cover with an acceptable species such as needle and thread, but still be classified in fair to good condition based on climax. The Hogsback area falls in this category. Recently in a class at MSU the professor was illustrating the use of infrared photography to analyze crops. He pointed to some areas in BVDH County to illustrate how a good grain crop shows up. One of the photos he used was of the Hogsback and a student familiar with the locale was quick to point out that this particular area was not a grain crop, but winter range of HL which had a tremendous cover of needle and thread. This range is rated in only fair condition by a BLM survey based on a climax population. It is important to realize the potential of a piece of ground, but the cost of that potential may not be practical. Another example of the fallacy of climax is the decrease in range condition if a field is put into crested wheat. The pounds per acre of forage increases, but range condition decreases because crested wheat is not recognized in the climax plant community.

- 54 The EIS constantly mentions the allocation of AUMs to wildlife, but fails to give much credit to the AUMs wildlife harvest off deeded acreages. These AUMs have an impact in certain areas, especially where early spring and winter use is prevalent. The livestock man has traditionally welcomed the elk and deer, except in haystacks. But as the federal range closes up and no compensation is given for wildlife AUMs, we foresee big game as an unwelcome guest on deeded ground, along with the hunter.

- 55 HL would not be so concerned with the management of BLM if there were not so many acres of intermingled lands involved. HL realizes that the days are numbered for livestock grazing on federal range. Of the 43,000 acres in the McCartney allotment, 19,000 are deeded, state, or private lease. The EIS does not really approach this problem and offer any solution.

56 Fencing is not viable and trades are so difficult that they are rarely attempted. Deeded springs provide most of the water for the BLM grazing. Since HL has controlled the allotment, the BLM has not contributed one cent or ounce of material to develop the allotment and disperse the grazing. HL would like to trade lands on McCartney to block up the deeded, state, private lease, and BLM. It would make management so much easier, less expensive, and more productive. HL would like to see the benefits of trading discussed more fully in the EIS. Also an effort to make the mechanics of trading much simpler is needed. As the situation stands now, the BLM not only controls federal range, but also state and private range. On McCartney this control has been with an unhelping and unrelenting hand.

57 HL is alarmed about the unconcerned attitude taken by the BLM in trying to make the economic impact of the EIS appear minimal. The impact to some ranches will be devastating. In light of the present economy and interest rates, the cost and income figures are inaccurate. When one considers all the EISs in the west, the impact on the economy of the rural west will amount to millions or even billions of dollars. Under present economic conditions, this impact will be far greater than portrayed by the EIS.

The EIS fails to account for the financial hardship placed on ranches that have intermingled lands within an allotment. When a part of the allotment is deferred, nonuse is taken on BLM, but the operator still pays taxes on deeded and lease fees on state and private leases. The BLM employs actual use and not permitted use in the economic analysis of proposed cuts. The difference is called a "paper loss" and insignificant. In today's financial world, most money is made and lost on paper. This paper loss constitutes a \$90/AUM loss of salable value and a \$45/AUM loss on the loan security potential of the affected ranch. This loss of loan potential could decrease cash flow because of lost improvements which could increase the productivity of an operation.

58 HL recognizes that there is a conflict between livestock and riparian habitat, but is resistant to the premise that grazing is the sole impact involved. Nature has recognized this pressure and species of grass, willows, and forbs have evolved which are prolific under extreme pressures. The buffalo, deer, moose, and elk used this habitat in great numbers before cattle were introduced into the West. Cattle have grazed in these areas in BVHD County for years and with just as much concentration because the streams in days past were the only source of water. Only in the last ten years has there been complaints about poor fishing and it seems odd that livestock's impact has hit all at once. Fishing pressure, chemicals used carelessly in range improvements, and various water projects have

58 had a greater impact on fish populations than livestock. The erratic forces of nature will cause far more sediment to be carried into the streams than cattle will ever be responsible for. As the EIS states, water developed away from riparian areas will ease this conflict.

59 HL views wilderness as the first step in removing cattle from federal ranges. This is not necessarily due to the regulations of the Wilderness Act, but because of the detrimental and discouraging restrictions imposed by agencies managing wilderness. These agencies go far beyond the guidelines set forth by the Wilderness Act. If wilderness remained untouched and no management tools were used to disperse cattle or improve range, the area may take longer to reach climax than it would otherwise. The EIS states that the use of fire in a wilderness could destroy naturalness, but nothing is more natural than burning sagebrush, douglas fir, or junipers back into the rocks. It seems that an attempt to reach climax and wilderness should be synonymous.

60 The EIS gives preference to wildlife over livestock and is quick to point out conflicts which exist in spring, summer, fall, and winter ranges. As noted earlier, livestock men usually welcome big game and like to see them healthy and in good condition, but we are annoyed when we receive the brunt of the blame for big game decline. The livestock man does more for the wildlife than any other industry by donating forage off deeded ground. Little is mentioned about the extreme pressure and mass confusion for the game animals during hunting season. They are pushed off late fall and early winter ranges to areas where forage is poor or non-existent. Hunting causes the animals massive weight losses and they enter the winter in a weakened condition and sometimes far from their winter ranges. The loss of wounded animals makes the loss from fence entanglement look meaningless. The hunt has a far greater impact on wildlife populations and health than does livestock's impact. Credit is due to the livestock man in one form or another, and it is not given in the EIS. Also managing for climax does not always benefit wildlife.

The EIS mentions several conflicts between recreation and livestock use. HL believes some of these conflicts are valid, and some are not. Access to public land can be a problem if land-owner co-operation or easements do not exist. It is interesting to note that some of the most inaccessible land is held by people who are from the environmental camp. HL believes that the relations between the public and the livestock industry is improving. HL in the past has had good experiences with the public and notes that less than 1% of its controlled acreage is restricted in any way.

In reference to riparian habitat, recreationists are in some cases just as lazy as the livestock. There are places to go to avoid conflict if one has the energy to do so. Most fences on

61 HL range ground are constructed so as to provide gates in areas where "sane" access is needed. ORV use on all lands in BVHD County has caused damage as evidenced by many recent road closures and restrictions by the USFS and the BLM. Fence conflicts with ORVs in the EIS is questionable. ORV use in certain areas and designated trails is fine, but recreational ORV use on open range is undesirable. On HL rangeland some ORV use has damaged the environment and led to harassment of wildlife and livestock. HL feels that under the proposed action, snowmobile conflicts with fence would be insignificant. Snowmobile use is usually limited to areas where snow is plentiful. In such an area the fences that would be constructed should be the let down type. This kind of fence should not conflict with snowmobile use. The wire would be under the snow and the posts would present no greater hazard than the billions of trees and rocks in BVHD County.

HL is hopeful that the comments submitted will be helpful to the BLM in analyzing the draft EIS for the Mountain Pothills. The document represents countless hours of labor by the staff and the expenditure of thousands of dollars. HL recognizes the importance of the acceptance of the EIS, both for the BLM and the livestock industry. Hopefully as the AMPs are implemented, co-operation on both sides will be seen so that progress can be made on range condition; progress that has been stifled for many years because of the EIS. With this implementation the BLM has the responsibility of promoting, not restricting, development of proposed AMPs for the good of the environment, livestock man, and economy. Attached to this comment is an analysis of the range survey and proposed cuts on the McCartney Mountain Allotment.

Hagenbarth Livestock (HL)
P.O. Box 1128
Billion, Mont. 59725
May 12, 1980

62 General comments on the Mountain Pothill EIS range survey and proposed grazing cuts for the McCartney Mountain Allotment.

It is HL's understanding that the range survey conducted on McCartney Mountain was made along a predetermined line. Data was taken from different areas along this line and correlated into a survey that attempted to establish the range condition, trend, and carrying capacity of the allotment. HL realizes that the time available to make the survey was limited, but does not excuse the inaccuracy of the analysis.

McCartney Mountain is a complex allotment. Its elevation varies from 8300 feet to 4800 feet. It has slopes which face North, South, and East. It has a climate of its own with at least two sub-climates. The soils vary between solid granite, shales, good soils, coarse gravels, and limestone. The species of grasses varies from bluebunch wheatgrass to blue gramma. The majority of the water is on the north and northeast face and lies on deeded or state ground. These springs are used to service the majority of the BLM. From 1963 to 1970 the allotment was primarily used for winter sheep range. This winter use constituted one of the best recognized management practices for rangeland grasses. Since 1971 the allotment has been converted to cattle and greater portions are used as the lessee develops suitable water to make available more acres of forage. The BLM only allows maintenance of springs which have been developed in the past. The development of new springs and wells on BLM ground has been prohibited. Large acreages of the allotment on both the north and south ends have not been developed because of the lack of water and the restrictions by the BLM. As the carrying capacity of the allotment is being approached, pressure is beginning to tell on the lessees developed areas. Until the BLM assumes their proper role in range management, the livestock forage potential on McCartney will not materialize. The majority of the pressure is being seen on the deeded ground which surrounds the water. HL is hopeful that the BLM will assume its proper role when the EIS is accepted. HL needs both financial help and the expertise of the BLM staff to demonstrate the potential of the allotment.

64 The south side of the allotment has soils which are made up primarily of coarse gravel. Because of lack of water, it has not been grazed in several years and is in excellent condition. This portion of the allotment was rated at 10.3 acres/AUM in the range survey. The north end of the allotment has better soils and more precipitation and was rated at 9.9 acres/AUM. Had the south end received the same pressure per acre as the north end over the last ten years, the south end would look like a race track. The lack of variance in carrying capacity

13h

64 on these two different types of ranges illustrates the inaccuracy of the range survey. Which portion of the allotment should be adjusted up or down is debatable, but it is noted that Lost Creek (0322) was rated at 12 acres/AUM and its soils, forage, and range condition in no way compare to either the south or north portions of McCartney Mountain.

65 Due to the intermingled ownership in the allotment, the proposed 779 AUM cut on federal range would actually amount to a cut of 1416 AUMs with all land considered. Since converting the allotment to cattle, HL has expended a lot of time and money on McCartney so activation of nonuse AUMs would not abuse the range. At present, there are over 20 springs to develop, three major pipelines to construct, and two or three wells to drill before the potential of McCartney can be fully realized. The inaction of the BLM to participate in this development has made it a long grueling process. Consequently over the last 13 years HL has taken over 16,500 AUMs of nonuse. This nonuse is not a paper loss as stated in the EIS, but a loss because HL will not abuse the range and livestock just to activate an AUM potential that is there, but undeveloped. This massive amount of nonuse clearly points out that the allotment has not been abused in recent years. Taking into consideration this nonuse, the inaccuracy of the range survey, and the inaction of the BLM in developing the grazing potential of McCartney Mountain, the imposition of the grazing cut suggested by the EIS is unfounded and unwarranted. When McCartney reaches its potential, the carrying capacity is more likely to be adjusted up than down.

14a



May 14, 1980

R. Gregg
Bureau of Land Management
Butte District Office
P. O. Box 308
Butte, Montana 59701

RE: BLM Grazing Impact
Statement
Mountain Foothills

Mr. Gregg,

I felt we should write to you about your impact statement. First of all, we wish to applaud your efforts in this area. Since our major reason for existence is the protection and enhancement of cold water fisheries, we are very interested in your project. We know that the habitat on the banks of streams is critical to maintaining a quality fishery.

We have been made aware of your work and would like at this time to voice our support of your Alternative C, on Improved Watershed Values & Habitat.

We would also appreciate being notified by your office of the final outcome of your study.

Thank you for your time and consideration.

Sincerely,

Tony Martin
Anthony V. Martin, Pres.
Rocky Mountain River Rats
Chapter

THE ACTION ORGANIZATION
Washington, D.C. Headquarters • 110 Park Street, S.E. • Atlanta, Georgia 30303 • (770) 261-4100

15a

1100 Missoula Avenue
Helena, MT 59601
May 14, 1980

R. Gregg Berry, Project Manager
Butte District Office, BLM
P. O. Box 308
Butte, MT 59701

Dear Mr. Berry: Re: Mountain Foothills Grazing Management Program
Environmental Impact Statement

Please include these comments in the record. Your EIS identifies three important concerns:

1. The basic importance of protecting and improving the condition of the watershed.
2. The significant value of wildlife and fisheries both nationally and to the state.
3. The need of certain local ranches for the forage resource.

On a national scale, protecting the watershed and wildlife should rate as top priority. In the ranching community, though, forage for livestock probably comes first.

We believe that "C: Improved Values and Wildlife Habitat," with some modifications, more fully expresses the public interest, while continuing to provide grazing for livestock.

Our reasons follow:

I. Watershed

Many concerns are addressed in the EIS, but none are more vital than protection and enhancement of the watershed. J. W. Swan, Idaho rancher, writes in "Rangelands" that "soil and water protection must be our #1 priority (on rangelands)."

BLM has attempted to assess sediment yield (soil loss) (P. 28) in response to each alternative. The figures are an average for the entire BLM area. After reviewing other EIS data it appears that at least half of the sediment comes from the critical area of 260,000 acres (fair to poor condition). The loss from this critical area is greater than the probable replacement rate in all alternatives but "F" and possibly "C." At a minimum soil should be forming as fast or faster than it is being removed. (Top soil replacement on much more productive farmlands average about 4 tons/acre/yr.) It is unlikely that soil on the subject area is forming at the rate of more than 1 or 2 tons/acre/yr. The loss of soil alone would make "A: The Proposed Alternative" unacceptable. See table on soil loss below:

Alternatives	(P. 28) Millions of Tons/Yr. (entire area)	Soil Loss (B/L) Millions Tons/Yr. Critical Area	Est. Tons/A/Yr. From Critical Area
Existing	2.4	1.2	4.3
A. Proposed	2.1	1.05	3.5
C. Improve Watershed & Wildlife	1.5	0.75	2.7
F. Eliminate Livestock	0.8	0.4	1.4

1/ Article, June 1979, P. 94 - Soc. Rge. Mgmt. Publication

15b

R. Gregg Berry

Page 2

May 14, 1980

II. Wildlife

Both wildlife and fisheries resources in the Beaverhead and Madison drainages are of national significance. The BLM lands plan an important role in providing critical habitat for big game and upland birds such as the sage grouse. Four endangered species survive in this area.

Though many of these animals are not competitive with livestock, overgrazing indirectly is a serious threat to some of them. Dr. Robert Rehnke, a trout authority (at Colorado State University) has noted that overgrazing by livestock is the single greatest menace to trout fisheries in the West.

Blue grouse need at least 12 inches of cover for protection for successful nesting and rearing of young.

Young mule deer use sagebrush and high grass for protection.

Many more examples exist.

In alternative "C" (P. 14) BLM implies that the reduction of 50,592 AUMs is that much less livestock forage. Perhaps, but our analysis indicates otherwise:

1. The 27,627 AUMs set aside for watershed (includes 6,993 AUMs for protection of riparian areas) is the best way to prevent soil loss, and thus improve future range productivity. (See "Soil Loss" P. 1)
2. The remaining 22,865 AUMs allocated for wildlife (presumably from livestock forage) seem to be an illusory transfer for two reasons:

- a. Existing livestock areas have little or no forage to give.
- b. The greater likelihood is the intrusion of livestock into wildlife areas. This is implied by proposals to drill 40 wells and develop 61 springs. Usually such water developments are placed in good forage areas (secondary range) which livestock have been unable to use because of lack of water. Placement of water to draw cattle into wildlife areas should be very carefully examined before such decisions are made.

3. Based on BLM figures on wildlife, P. 64 to P. 82, existing use on BLM range for deer and elk would run from 8,000 to 10,000 AUMs. Chances are that much of this use is on range now little used by livestock, bringing stock into wildlife ranges (2.b.) may create additional stress on these ranges, although rotation systems may offset possible losses.

III. Economics

BLM covers only the economics of ranch income in the EIS. A broader study would include the effect of heavier calves because of better range conditions, gains in recreation income, value of soil kept in place, and related economics. It is likely a "watershed and wildlife alternative" would fare much better where the economic coverage is over a broader range of concerns.

IV. Other Concerns

A. Averaging and lumping of data often limits the reader's ability to analyze the EIS. Examples where discreet data would be helpful in tables are:

1. Identifying primary (key), secondary, and unsuitable cattle areas by acreage and grazing capacity.

2. Identifying soil losses by type of use and range condition.
3. Identifying condition and trend by primary and secondary areas.
4. Identifying (generally) the amount, condition, and present use on areas where water is planned for development.

B. Spring Use of Rangelands

Appendices show most allotments opening in May, some as early as May 1. Too early use is a primary cause of range deterioration.

Although RLM has attempted to improve this situation by some rotation systems, the rate of recovery is still slower than where early use is deferred. Seasonal systems particularly require deferment.

One way is to make reductions in early use rather than in numbers of livestock. By their very nature--better soils, lower elevations, easier repair--private lands can sustain early use better than RLM lands. RLM should correct this problem. Its arguments for early use are not persuasive.

C. Use of Herbicides

RLM indicates that herbicides will be used in some areas, presumably where burning would be difficult. Herbicides are non-selective and may permanently remove certain beneficial and attractive vegetation from the sprayed area. "Some species may never return" states U.S.F.S. EIS on "Herbicide Control of Sagebrush," 1972, Beaverhead NF, P. 22. Some species listed as having "heavy mortality" were: Service Berry, Penstemon, Beard Tongue, Prairie Smoke Lupine, Salina Root, and Indian Paintbrush.

In areas where insufficient grass is present to carry a burn, herbicides will kill the sagebrush, true, but then what? Is plowing and reseeding planned? If so, why not in the first place--chemical control should be a last resort.

D. Burning

Careful burning in mosaic patterns with small area burns is acceptable, and is being done in areas of unwanted brush such as Cleveland NF, California.

V. Rotation Systems - We accept rotation systems provided:

A. Needed adjustments in use are made in accordance with present carrying capacity--not on the assumption of future productivity.

B. These systems do not interfere with wildlife movement and should not be placed in critical wildlife areas.

C. Public money expended for fencing and other improvements would have multiple-use benefits.

In conclusion, the report provides much information which could help correct problems of past overuse. We support RLM's endeavor in this direction.

Sincerely,

Noel Rosetta

Noel Rosetta
Consultant, Sierra Club
Upper Missouri Group

COMMENTS ON THE
MOUNTAIN FOOTHILLS
GRAZING MANAGEMENT PROGRAM
DRAFT ENVIRONMENTAL IMPACT STATEMENT

by

George B. Chaffee
George B. Chaffee
Resource Consultant
Box 361, Lump Gulch Rt.
Clancy, Montana
May 12, 1980

The following comments are prepared to address specific attributes in resource inventories conducted by the RLM and the implications of certain data utilization in describing environmental impact due to livestock grazing practices.

The foregoing comments are based on a background of field participation with the range and riparian survey procedures in the field and familiarization with many of the principal allotment areas discussed in the EIS.

81 RIPARIAN HABITAT

The characteristics and condition of riparian habitat derived from 220 miles of stream survey in the Dillon Resource Area indicate that each alternative action (A, B, C, D and E) involving grazing results in some degree of residual adverse impact on a substantial number of allotments. (Table 3-30, pages 233-234). Only the alternative actions of C and F are described as minimal or none. The impact or effect of wildlife use, however, is not clear under alternatives C and P.

82 In consideration of the complexity of fluvial landforms and processes in each major drainage basin of the EIS area, it is not hardly possible to address the structure and successional status of vegetation, stream channel and bank condition in the short time the RLM riparian survey took place (1976-79). Moreover, predicting habitat condition response or degradation under the A, B, D and E actions is conjecture until actual monitoring data is documented under

82 various intensities of grazing. Monitoring riparian response to grazing with alternative A on allotments where alleged residual impacts would occur may provide baseline data after 1-3 cycles of intensive (rest-rotation and/or deferred rotation) grazing has occurred. Furthermore, the basis for making adjustments for initial stocking rates and ultimate forage allocation would be more realistic after the grazing system has been implemented under actual practice.

RIPARIAN HABITAT SURVEYS

83 The system of riparian surveys is referenced in Appendix 18, but not described in the EIS (page 227, paragraph 7). It was also mentioned that anticipated condition resulting from the six alternatives was based on alleged experience with twenty-two (22) existing management plans. An evaluation of this data is not referenced or incorporated in the EIS as a baseline for comparison purposes.

84 The examples of one managed allotment riparian habitat (Dyce Creek) and one year unmanaged (Repe Creek) is hardly adequate to use as model riparian habitats upon which to develop criteria for: streambank and vegetative condition and to correlate the various attributes of age, form class, canopy, height and bank erosion with all classes of stream orders in the resource area. Observation of the Repe Creek area, for example, shows a different type of fluvial landform formation than the Dyce Creek drainage. Moreover, active

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bank erosion resulting from intermittent flooding combined with livestock use obviously results in sporadic stream bank erosion as evidenced on this stream. My examination of the Rape Creek survey sector indicates the beaded cover type present and the condition of the stream channel and bank relative to the riparian vegetation could respond favorably under alternative A if treatment A would include a full rest of the riparian habitat unit during the first year followed by B and C with partial rest under a three pasture deferred rotation grazing system. The same treatment combination could be applied to other riparian habitat rated poor adapted to the local landform and rangeland conditions. Other resting combinations may also achieve the same improvement under implemented grazing without reducing the initial stocking rate. This assessment of Rape Creek is attributed to the existence of a moderately high density of seed forming herbaceous vegetation and scattered clumps of overstory trees and shrubs present on this stream capable of revegetating bare stream banks and improving shrub structure.

85

The survey system employed is a reasonably valid method for identifying problem or critical area situations, but does not include adequate parameters to quantify the extent of bank erosion, wildlife versus livestock utilization and potential riparian canopy cover.

It would be of benefit to construct wooden rail fenced enclosures in priority problem allotments where riparian

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habitat is rated as poor in order to monitor trend and response of riparian vegetation to use and non-use under implemented grazing systems. Quantitative data could then be collected in terms of estimating twig production from crown cover volumes, biomass, biotic community populations, reproduction success of willow and aspen, extent of damage to willow and aspen by beaver, and the revegetation of raw eroded banks under secondary plant succession.

86

The subjective rating of stream bank condition or riparian habitat is expressed in miles and percent of the stream in good, fair or poor condition. Miles of poor stream bank and/or riparian vegetation cannot be equated accurately to AUMs of livestock and big game grazing. In short, there is no sound basis for allotting or reducing livestock AUMs to meet riparian goals based on miles of estimated stream condition. An initial stocking rate based on the physiological requirements of the desirable herbaceous plants and available key riparian species might be the benchmark upon which to monitor trend in condition class under an intensive system of grazing. In due course of time, based upon the ecological response of riparian habitats to grazing systems, forage allocation could be predicated upon realistic trend data.

87

In summary, the draft EIS addresses the use and resultant condition of riparian habitat and stream banks through managed and unmanaged livestock grazing. It does not adequately address the present and potential structure of riparian vegetation in relationship to the present fluvial landform

87

and processes occurring on the various drainage basins. Unknown factors of biotic community populations and habitat are required before impacts and mitigation of riparian resources can be reasonably described. Trend in condition of riparian habitat should be monitored under initial stocking rates prior to allocating forage for wildlife and livestock AUMs. Documented wildlife use of riparian vegetation impact and competitive use of willow, aspen and other species are not adequately accounted for in the draft EIS.

Goals for managing riparian vegetation and improving stream bank condition must be predicated upon more baseline data than is available in this report.

RANGELAND CONDITION

In reference to current and long term projected range condition for the proposed action (Table 3-17, page 172), the following comments are made.

The range condition derived from ocular reconnaissance surveys shows 30% in fair to poor condition, or 25-49% of climax vegetation present for prescribing management to meet desirable plant requirement needs for improvement.

Range trends derived from surveys, observation and comparable range type data show downward at 27% and static at 44%.

Estimated projected range condition changes under alternative A imply changes of 54% upward in terms of poor and fair condition.

Unknown factors in this projection are many. Some of them include the following:

88

The method of converting ocular range survey data to range condition class (ecological site method) is questionable;

89

The basis for describing potential percentage changes of the various vegetational types, condition class and season of use to projected percentage changes under each alternative action; and

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Combining Fair condition class (25-50% climax) vegetation with Poor (0-25% climax) creates a wide variability upon which to predict response in condition class under prescribed system of grazing. For example, a high or mid-fair condition could respond 75-100% under favorable site condition under alternative A. Projected range condition changes on low-fair or poor (0-25% climax) will respond obviously at a different rate under management than mid- or high-fair condition.

91

In Figure 3-5, page 180, Range Condition Current and Projected, illustrates that alternative A, C, and D all show about the same percentage of condition class despite the wide variance from intensive management to accelerated livestock use. Even alternative C with options to stress watershed and wildlife habitat show little difference. This is very questionable relative to the rate of plant succession that probably would occur under intensive management, spraying and burning, and/or reducing livestock numbers.

17a

Ross Bruner
Pres. State Council of
Trout Unlimited
17 Grandeur Park Dr.
Bozeman, Mt. 59715

Dear Sir,

92

I am writing to comment on the draft EIS for your mountain foothills grazing management program. Obviously Trout Unlimited is very concerned about the influence grazing has on riparian habitat. The option of no grazing at all, attractive as it is, doesn't reflect political or economic reality. Zealous as we are about water quality this is an option we would not advocate because of the economic hardship it would cause the rancher. Yet, the soils in the Gravelly Range seem particularly sensitive, and we certainly would argue for and support a grazing program which was more protective of the riparian habitat present. Thank you for your consideration.

Sincerely,
Ross

18a

May 13, 1980

R. Gregg Berry, Project Manager

Considering the Mountain Foothills Environmental Project Statement, I am in favor of Alternative D: Accelerated Livestock Forage Development.

Rich Franko
Franko Ranch, Inc.

19a

BEAVERHEAD COUNTY PLANNING DEPARTMENT

P.O. BOX 1155
DILLON, MONTANA 59725
406/683-4862

May 15, 1980

Gregg Berry
Bureau of Land Management
Box 3388
Butte, Montana 59701

Dear Mr. Berry:

The Beaverhead County Planning Board has reviewed the Draft EIS of the Mountain Foothills Grazing Management Program and wishes to submit the following comments.

The Beaverhead County Comprehensive Plan stresses an economic objective "To enhance the agricultural, forest products, and mining segments of the economy by protecting the resources which support these activities, including the continuity of multiple use of public lands." It further states, under the section on agriculture: "Livestock will continue to be the dominant sector of agriculture in Beaverhead County because soil and climatic conditions favor the raising of cattle and sheep. The people of Beaverhead County prefer to retain agriculture as the prime economic force, and will continue to support agricultural enterprises." "Rangeland management through planned harvesting and resting is an ever renewable resource"; and "No energy source is used up in the production of the grasses which in turn gives us a usable resource in the form of beef and mutton production."

In reviewing the proposed alternatives we wish to go on record as favoring Alternative D: Accelerated Livestock Forage Development. This alternative would increase the grazing capacity of the land to its greatest potential and would improve the agricultural economy of the area, both of which are excellent goals in our view. Production of food and fiber will be increasingly important in the future as agricultural land is used up by development. Production of food and fiber through grazing, which consumes no energy, will be especially important. Therefore any plan which will increase grazing capacity of the land will benefit not only this county but the country as a whole.

94

Alternatives A and B, although aimed at better grazing management which is admirable, would have a severe effect on the economy of the county and on the agricultural operations. You state that operators would have to seek alternative forage sources. Where would you suggest this alternative grazing be found with the present competition for good grazing land? How would you suggest the rancher meet the increased costs of grazing caused by the competition for grazing land which would be increased by loss of ELM grazing? Where would you suggest they put their livestock when they lose their grazing or the time of use changes? We believe that the result of these proposals would be livestock operations being forced

19b

-2-

94 to go out of business or overgrazing on private lands. We consider neither of these results acceptable.

95 Alternative C would have an even more severe effect on the agricultural operations with a 40% reduction in use. We believe livestock grazing with good management can be compatible with good watershed and wildlife habitat. There is no mention in this alternative, or the others which discuss wildlife, of the role played by private land in supporting wildlife. This has never been measured and probably cannot be measured, but wildlife does spend a good part of the year on private land grazing on forage which is then not available to the owner's livestock. Yet this proposal further penalizes the private landowner by proposing that he give up public land grazing to wildlife as well. It is time that the agencies administering public lands take into account the amount of grazing provided wildlife by private land, and the costs to the landowner.

96 Alternative E, although it might be a "middle ground" solution, is too rigid in stating there would never be any changes in grazing management proposals or AUMs authorized. This eliminates future possibility of range improvements and is not in the best interests of the land.

97 Alternative F is totally unacceptable to this Board for reasons emphasized above. In addition we would like to point out that in Beaverhead County, where two thirds of the land is public land, any change in the uses allowed on that land has a severe effect on the economy of the county.

We believe that the best range practice would be a coordinated grazing program among landowners such as the East Pioneers Range Stewardship pilot program presently being conducted.

Yours truly,

BEAVERHEAD COUNTY PLANNING BOARD
Holley R. Smith
Holley R. Smith, Chairman

20a

E. MAYNARD SMITH
BOX 107
GLEN, MONTANA 59722

May 15, 1980

Gregg Berry
Bureau of Land Management
Box 3388
Butte, Montana 59701

Dear Sir:

98 I would like to comment on the Mountain Pothills Grazing EIS.

First of all I would like to say that in going over some of the permit changes I feel that there is great inequality in the overall evaluation. This may have been due to the lack of qualification of the evaluators, or not enough time being spent on the ground. From my knowledge of some of these areas, I believe some grazing permits were drastically cut that should not have been cut, while others that need to be cut were not.

99 I favor Alternative D: Accelerated Livestock Forage Development. In my experience range conditions that are good will help wildlife, watershed and livestock production, and the livestock operator is the one you want to keep in business. He is producing food and fiber, and keeping the county going economically by paying the taxes. The animal is harvesting the forage with very little use of energy, and at the same time keeping the environment clean.

100 There are many areas of sagebrush that are uneconomical to burn or spray. Spraying the good potential grass areas and leaving the unsuitable areas in sagebrush should leave a good balance for the game. It has been my experience to see sagebrush move back into controlled areas in its proper balance with the grasses.

Supporting a strong position for livestock in a livestock country is not a bad position to take, especially with the spinoff of benefits for wildlife and watershed values, and the future needs of the country for food and fiber.

Yours truly,

E. Maynard Smith
E. Maynard Smith.

21a

Comments on

Mountain Pothills Grazing Management Program EIS

Joyce Riegan
Ballentine, Mt. 59006

21b

Question: Why does it take five Americans to change a light bulb?

Answer: One to turn the bulb and four to file the environmental impact statement.

(From Readers Digest, May 1980 issue page 123)

Traditionally Americans are supposed to be able to laugh at themselves, but we have come to a point where government is getting so tangled up in their own regulations, red tape, paper work and love for voluminous reports along with more reports on reports, it is sad. I object to my tax dollars being poured into the Mountain Pothills Grazing Management Program, draft environmental impact statement.

I read in an article written by Bert Taubert awhile ago that there are three kinds of people. There are those who are productive, producing goods and services. There are those who are not productive, their output does not add to goods and services. The third group are counter productive. They take away from the productivity of others. I feel that when you consider all the money and man hours that have gone into the Mountain Pothills Grazing Management Program EIS it falls squarely into the third group. The million dollar plus price tag hasn't added added one blade of grass, one tree, added wild life, hasn't produced one pound of beef or lamb or wool, or has it produced one dollar in revenue. But it has cost and cost.

101

I attended the public meeting at Sheridan, Mt. It was obvious many of the ranchers who spoke knew of figures and facts cited in the EIS were incorrect. In reading the EIS there are a few things

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stated about the area of Madison County I am acquainted with that I would question as to accuracy. Yet the preprints are based on these facts and figures. What I considered to be a lax explanation was given at the meeting was that there were errors in printing the draft and on the maps. We received all this for one million plus!

102 The costs and returns, and cash income charts are all wrong and out of date for 1980. For example EIS table AF22-1, Receipts and operating expense figures are ridiculous today. Yet the EIS goes on to project costs for years into the future. It makes about as much sense as looking into a crystal ball.

103 Range conditions change from year to year. Was it a dry year? Did large numbers of antelope migrate into the area? (As has happened) Did grasshoppers move in? There are so many variables. Conditions apply only to the day the range was looked at. The only way our allotment can be looked at is on foot or horseback, not from a vehicle parked on a road, which I sincerely believe to be the case. The range away from the road is not the same as it is near the road and water.

104 In a subtle way, a finger was pointed at domestic livestock as the major cause of erosion. Not true! Erosion has been going on since day one. The Grand Canyon wasn't always there. Mining, timbering, wildlife, motorized vehicles, public recreation, hunters ect. take their toll too. Isn't there a very real possibility that if an erosion study had been taken 100 years ago that it might show we're not doing too bad considering what has been accomplished.

105 Nothing was mentioned that I could find, about old garbage dumps on BLM land. Today people keep raking and sifting through them spreading refuse over areas. How about cleaning them up?

21d

106 At the public meeting our daughter objected to the Quality of Recreation map showing above average fishing on private land. She wanted to know why information on private lands was included in a public document. Her question was never answered, but instead she was immediately asked where this was in spite of the fact that at the beginning of the meeting we were told that the questions should deal in generalities and not a particular problem.

Printing information of this kind creates bad feelings between the land owner and fisherman when the fisherman finds he has to ask permission to fish on the ranch.

107 EIS appendix 10, Fish Habitat condition, page A 129 shows 1.0 BLM miles and comments "very poor heavy livestock use." Yet the map shows our deeded ground near the mouth of Granite Creek above average fishing. Why?

108 I think public lands should be managed to produce revenue for the public. The rancher pays for his use of the land. I would imagine mining and lumbering interests pay also. Do they? How about other users? Do hunters, fire wood gatherers, campers, snowmobilers, motorcyclists, off road vehicles, etc. pay for their use of public lands? If not why not? Is it a double standard?

Perhaps a look should be taken at the Sagebrush Rebellion. It just may be that public lands could be better managed on the State level rather than the federal level. State lands help finance the schools. If there is any net revenue from BLM lands I have missed knowing what it is used for.

22a

Box 107
Glen, Montana 59732
May 15, 1980

Gregg Berry
Bureau of Land Management
Box 3388
Butte, Montana 59701

Dear Sir:

I am writing to comment on the Draft EIS of the Mountain Foothills Grazing Management Program.

109 I favor Alternative D: Accelerated Livestock Forage Development of the six proposals presented. I have seen on our own land the value of good range management practices and the increased grazing capacity it provides. The practices we have used include both rest rotation management of pastures and spraying of sagebrush as well as reseeding of sagebrush areas with crested wheat. Good grass cover is beneficial not only to livestock but to watershed and wildlife. Alternative D seems to me to be the best possible approach to increasing grazing capacity for producing feed and fiber and providing for wildlife and watershed.

Alternatives A and B do propose more intensive grazing management, which is good, but they will cause, in my opinion, excessive hardship to livestock operations in this area, and possibly lead to overgrazing on private lands when forage must be found elsewhere.

Alternative C I object to strongly because I believe that wildlife and watershed benefit from good range practices and there is no need to emphasize wildlife and watershed values at the expense of grazing. The economic effect of this alternative would be severe also.

Alternative E would serve no useful purpose since it provides no way to improve range practices in the future.

Alternative F would be a catastrophe for the livestock industry in this area, would completely waste a natural resource that can produce feed and fiber with no energy use, and is an alternative this country cannot afford to even think about.

Yours truly,

Wes Holley Smith
(Mrs.) Holley Smith

23a

John Conover Jr.
P.O. Box 105
Dillon, Montana 59725
May 14, 1980

Butte District Office
Bureau of Land Management
R. Gregg Berry, Project Manager
P.O. Box 3388
Butte, Montana 59701

Dear Sir:

We wish to comment on the Mountain Foothills Environmental Impact Statement.

In reading over the different alternatives which are presented, we would agree with alternative A, the plan which the BLM has proposed as the one they favor, which is a multiple use grazing program.

We are definitely against plan C and F which greatly alters a rancher's grazing ability. Any plan that puts a rancher out of business is not a fair and just plan.

Neither do we favor total livestock over wildlife. With adequate planning and management both livestock grazing and wildlife should be able to forage an area and both benefit.

110 We have a ten year lease, grazing record no. 5129, and the lease stipulates our grazing time from July 15 to October 15 of each year. In your Environmental Impact Statement book an error was made listing the time as July 15 to September 15. At the public hearing which was held on April 21st, we explained this error and it is on the records of the hearing.

Respectfully yours,

John Conover Jr.

24a

EDUCATION -- CONSERVATION



Montana Wildlife Federation

AFFILIATE OF NATIONAL WILDLIFE FEDERATION

May 14, 1980



R. Gregg Berry, Project Manager
Butte District Office
Bureau of Land Management
P.O. Box 308
Butte, MT 59701

Dear Mr. Berry,

The Montana Wildlife Federation, representing 2,000 sportsmen statewide and dedicated to promoting wildlife conservation and quality hunting and fishing, is vitally interested in the management of Montana's public land, wildlife and other natural resources. On behalf of the Federation, I offer the following comments on the Mountain Foothills Grazing Management Draft Environmental Impact Statement (hereinafter referred to as the DEIS).

General

• The Montana Wildlife Federation commends the BLM for the high quality of the DEIS. In most cases, the statement clearly displays the tradeoffs between livestock use and wildlife habitat and, in doing so, makes possible informed public comment. The DEIS also provides valuable information on grazing systems and the ecological relations between livestock grazing and wildlife habitat.

• While the six management alternatives are valuable for a comparison of environmental impacts, these arbitrary alternatives should not unduly restrict BLM's options in adopting a final grazing management program. In other words, BLM must be able to incorporate management direction from one alternative for specific sites while generally following the agency's preferred alternative for most areas. As noted below, we believe there are a number of sites where Alternative A (the proposed action) is inappropriate and the actions proposed in the improved watershed and wildlife habitat option (Alternative C) should be implemented. The flexibility to accommodate these needed changes, that is to incorporate site-specific modifications of the proposed alternative in the final grazing management plan, is essential if the process of public comment is to have any value.

111 • The DEIS is deficient in its treatment of the aquatic resources in the Mountain Foothills region. Specifically, the statement does not provide adequate information on stream-by-stream fishery values, on the impact of cumulative sedimentation from riparian zone degradation on the major fisheries or on the tradeoffs involved in implementation of the various alternatives on fishery resources. MWF's specific comments on aquatic resource management are included below.

112 • Overall, the impacts of the proposed plan on wildlife habitat are portrayed as highly beneficial and MWF commends this intention. We do, however, have reservations on whether the proposed plan, with its reduction of only 12.2% from current grazing levels, will in fact accomplish the wildlife habitat benefits which the DEIS displays. Our doubts arise from the knowledge of widespread unsatisfactory range conditions and

THE WEALTH OF THE NATION IS IN ITS NATURAL RESOURCES
CONSERVATION DOES NOT END WITH CONVERSATION

112

the understanding that vegetation recovery under grazing pressure is a slow process. For example, in riparian zone management, even the experts do not agree how or whether livestock systems can be used to improve vegetative conditions (DEIS, page 228). Additionally, the DEIS (p. 163) states it may take 6 to 8 years of complete protection for a bunchgrass range to recover normal vigor so range condition can begin to improve.

Because of this uncertainty in projecting the impacts of proposed grazing systems, we urge that range and wildlife objectives be closely monitored following implementation of the final grazing management program and that corrective action be taken on individual allotments if such objectives are not being met.

Mule Deer

MWF strongly supports the reductions of early spring grazing by livestock, as detailed in the proposed action. These reductions are necessary to rectify the current and unacceptable situation in which only 21% of mule deer winter-spring habitat is in satisfactory condition.

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MWF opposes the proposed extension of winter grazing by sheep into "crucial" winter mule deer habitat in the Hansen Creek allotment (0108) in the North Tenders. Additionally we oppose the proposed destruction of 2,100 acres of sagebrush winter range in allotments 0311 (northwest of Melrose), 0335 (Lewell Basin, west of Melrose, which also includes sagebrush strutting and nesting areas), 0481 (Brandon Pasture east of Sheridan) and 0533 (Tibber Creek allotment near Blacktail Deer Creek). For these five important mule deer areas, Alternative C proposals (with their reduced livestock AUMs and their lack of prescribed sagebrush burning or spraying) should be implemented to accommodate mule deer habitat needs.

In the Browns-Cherry Creek allotment west of Melrose (allotment 0320), Alternative C calls for the spraying of 1,200 acres of crucial deer winter range. Unfortunately, there is no justification given for this proposal and it is not clear that such a proposal would have any benefits for wildlife. Unless important wildlife benefits can be demonstrated from this winter range destruction, we oppose this alternative and support Alternative A for allotment 0320.

Elk

Given the forage competition and social intolerance between elk and cattle, the dependence of area ranchers on livestock forage from the public lands and the dependence of some elk herds on private land for winter range, the Montana Wildlife Federation realizes that management for maximum elk production is unrealistic and in some areas undesirable. However, we believe BLM should strive for a balance between elk and cattle numbers and, toward that end, we strongly urge the BLM to alter its proposed management in the specific areas discussed below.

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For elk summer-fall habitat (now only 56% satisfactory), stocking reductions as proposed in Alternative C for the Ruby Mountains, Medicine Lodge-Upper Horse Prairie and Blacktail Ridge areas should be implemented. In each of these areas, substantially increased elk populations can and should be supported on public lands. Conversely, management plans under Alternative A for the Ruby Mountains (which will keep the elk herd at 15-30 animals, or 1% of its potential) or for the Blacktail Ridge (which will keep elk numbers at half of what could be supported) are unacceptable to Montana sportsmen. For the Clark Canyon allotment (0002) within the Blacktail Ridge area,

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of the sagebrush food and cover source would also have disastrous impacts on sage grouse. It is unlikely the proposal can be justified from either a multiple-use perspective (it eliminates wildlife and recreation benefits at the expense of the single-use of grazing) or from a cost-benefit perspective. According to page A-201, the proposal would cost about \$30,000 to implement but no data is given to indicate that the temporary increase in livestock forage will provide economic returns to match this capital outlay.

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2) The proposal to burn 230 acres and spray 1,500 acres of sagebrush on the Belcourt allotment (0469). This area contains year round antelope habitat along with crucial mule deer winter habitat and sage grouse breeding and nesting grounds. This massive vegetation alteration will have critical impacts on all three species because surrounding lands offer no replacement habitats. This proposal amounts to a taxpayer subsidy of the destruction of critical wildlife habitat for the benefit of a single permittee.

3) The proposal to burn 530 acres of sagebrush in the Rocky Hills area (0148) south of Bannack, which would destroy important antelope habitat.

4) The proposal to plow and seed 400 acres in the Flying Pan allotment (0131), which would impact year round habitat for sage grouse and antelope.

All of the above proposals have excessive costs, are single purpose (livestock at the expense of the existing balance of livestock, wildlife and recreation) and subvert public values for the benefit of a very limited number of individuals.

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An additional aspect of the proposed action affecting antelope should be modified. Under current conditions and the proposed action, 5,000 acres in the Rock Creek allotment (0512) would be closed to antelope because of sheep-tight fencing. At the same time, the proposed action allocates about \$44,000 of public funds to meet the needs of the permittees. Clearly, the public should reap some benefits from this huge block of public land and altering the fences to allow antelope use is essential.

Bighorn Sheep

Given the limited numbers of bighorn sheep statewide, the tremendous sportsman interest in this species and the attendant value of sheep hunting to local economies, the Montana Wildlife Federation recommends the adoption of Alternative C for bighorn sheep habitat. Alternative C would provide the necessary forage to support substantial population growth of bighorn sheep without unduly restricting livestock AUMs.

Moose

The proposed action does not adequately meet the needs of moose in areas outside the Centennial Valley because of the failure to adequately improve riparian zones. MWF's comments on riparian zone management are below.

One allotment with moose habitat deserves comment because of its critical importance for both moose and elk. Allotment 0167, which borders the state game range along the East Fork of Blacktail Deer Creek, should be managed to exclude cattle use of the important riparian corridor and AUMs should be reduced as proposed under Alternative C.

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the Alternative C grazing reductions are critically necessary, not only for big game use but also to rectify the severe erosion and sediment problems as shown in Appendix 15.

For the two important and now unsatisfactory elk calving areas in Upper Cranite Creek and the North Centennial Valley, a deferred stock turnout date of July 1 should be adopted. As noted in the DEIS, this management would restore calving areas now in fair condition to good or excellent condition and thus allow elk populations in these areas (now estimated at 350-550 animals combined) to achieve increased production.

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For elk winter range (currently estimated to be only 47% satisfactory), MWF believes the proposals under Alternative C should be implemented in all 16 so-called "crucial" habitat areas, as listed in Table 2-15. Given rising pressures to subdivide, cultivate, intensively graze or otherwise maximize economic returns from private lands now serving as winter range, public lands will become an increasingly important source of elk winter forage. Additionally, public land winter ranges in good or excellent condition should help relieve grazing pressure by elk on adjacent private lands. Finally, in most instances winter range is the limiting population factor in wild ungulate populations so winter range management geared to elk requirements should increase elk numbers and associated recreational opportunities and economic benefits to local communities.

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The importance of management to enhance winter range for elk is foremost in the Tobacco Root Mountain foothills. There are no state game ranges anywhere along the 100-mile periphery of these mountains and most Forest Service land is too high in elevation to provide good winter range. Additionally, surrounding private landowners along the north and east sides of the Tobacco Roots have been very reluctant to support wintering elk and, as a result, the Department of Fish, Wildlife and Parks has been forced to increase harvest to keep elk herds at minimal levels. Because of this severe need for public land winter ranges around the Tobacco Roots, it is of utmost importance that the six BLM elk winter habitat areas surrounding these mountains (as listed on page 73 of the DEIS) be managed with primary consideration given to elk winter range values.

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The Greenhorn-Barton-Davey elk habitat area also requires special comment, as it is the only major elk winter area that would remain in unsatisfactory condition under Alternative A. According to the DEIS, "This allotment is steep and mountainous, and better suited to big game use than stock use. Without stock use, wintering elk numbers could be doubled on this allotment" (page 196, emphasis added). Clearly, the no-grazing proposal under Alternative C is the wisest management of this wildlife area and could help reverse the current population decline in this herd of about 150 animals.

Antelope

MWF largely supports the impacts of the proposed action on antelope, particularly the impacts in spring/summer habitats which are currently at the unacceptable level of 52% satisfactory. However, we strongly oppose a number of specific actions of the proposed Alternative A and recommend that these following proposals be dropped from the final management program:

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1) The proposal to eliminate sagebrush on 831 acres of the Cross allotment (0033) east of Bachelor Mountain. According to the DEIS, sagebrush elimination could cause heavy winter mortality in a herd of 500-600 antelope. This destruction

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Sage Grouse

The proposed action generally meets the needs of sage grouse habitat, with the exceptions of the large sagebrush elimination projects outlined in the discussions of antelope and mule deer above. Again, these projects should not be implemented because of their impacts on wildlife and associated recreation and their cost-benefit deficiencies. As the DEIS states in reference to the Cross allotment sagebrush elimination, sagebrush recovery might occur as soon as 15 years following treatment, while the cost of that treatment to the taxpayers is \$30,000, money which could much better be spent on riparian fencing or other long-term range improvements.

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Additionally, MWF would hope the BLM would give serious consideration to the proposed allocation of 301 AUMs on two allotments for the sole purpose of benefitting sage grouse breeding habitat. Such an allocation, representing less than one-half of one percent of the total AUMs in the study area, could serve to improve sage grouse populations and also to provide a secure habitat for the birds against which other habitats could be compared and in which needed research on this important game bird could be conducted.

Waterfowl

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The proposed action represents a major improvement in waterfowl conditions, largely because of the implementation of rest-rotation systems along Lima Reservoir. The impact of these new grazing systems on waterfowl production should be carefully monitored and, if necessary, AMP adjustments should be made if the anticipated waterfowl production increases are not actually occurring. Additionally, the specific proposals from Alternative C should be implemented to protect the large molting geese population which uses the Lima Reservoir.

Riparian Zones and Aquatic Resources

The Montana Wildlife Federation unequivocally supports the adoption of Alternative C for the management of riparian zones in the Mountain Foothills region. Our support for Alternative C riparian management is based on the following considerations:

1) As noted in the DEIS, riparian zones are the key habitat component for scores of wildlife species, including big game, small game, nongame and fish. The current status of riparian zones (46-56 unsatisfactory) is unacceptable from either a wildlife, watershed, fishery, recreational, sustained-yield or aesthetic perspective.

2) It will take drastic steps to restore the riparian zones to their vegetative potential and there is serious uncertainty, whether the rest-rotation systems under the proposed alternative can accomplish this goal. On page 239 of the DEIS, BLM cites a study showing willow recovery takes 6-15 years under total livestock exclusion. Additionally on page 228, reference is made to two experts (Hornay and Platts) who indicate rest-rotation is inadequate to restore a riparian zone and another study is cited (by Storck) which indicates riparian zones may recover without undue harm after vegetative recovery has been permitted through complete rest. Clearly, a conservative approach to riparian livestock grazing is required if these critically important sites are to achieve their habitat potential.

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- 3) The drainages of the Mountain Foothills area are important water sources for a number of exceptional trout streams, including the Big Hole, Madison, Jefferson, Beaverhead and Ruby Rivers. These waters have nationwide recreational significance and nationwide economic importance. Water quality considerations should be foremost in managing the tributaries of these of these rivers but, under the proposed plan, a number of tributaries will continue to have major adverse residual impacts on water quality (including allotments 0525 and 0457 on the Madison and 0462 on the Big Hole). Similarly, on Big Sheep Creek, one of the most important recreational fisheries with substantial BLM streambank ownership, riparian grazing reductions of 260 AUMs on allotment 0699 should be implemented as proposed in Alternative C. The regionwide implementation of Alternative C for riparian zones is critical to maintaining southwestern Montana's fishery resources.
- 4) Given the deteriorated condition of most riparian zones in the study area, the proposed elimination of grazing from only 5.8 miles of currently grazed streambank is woefully inadequate. Clearly, BLM needs to "bite the bullet" on riparian management to restore the public benefits of high quality riparian habitat. The Alternative C proposals, which call for 19.1 miles of now grazed streambank to be protected, should be implemented.
- 5) Under the riparian management program of Alternative C, fisheries and other aquatic resources should be able to reach their potential, with 94% expected to ultimately be rated good to excellent. As noted on page 239, this alternative accomplishes this goal by fencing, the elimination of livestock from specific areas along streams and by changes in season of livestock grazing. Such management would have an insignificant impact on the overall ranch economy in the region but would have great significance in restoring wildlife and fisheries habitats and populations and in meeting recreational needs on the public lands. Unfortunately, under the discussion of aquatic and fishery resources, the DEIS does not present the tradeoffs in implementing the proposed alternative. Without such specific information (information which was provided in sections on terrestrial wildlife), it is very difficult to respond in a site-specific manner to proposed grazing plans impacting fishery and other aquatic resources.

Thank you for the opportunity to comment on this draft grazing management program. I hope the final statement will reflect the modifications suggested above to improve wildlife habitat in the Mountain Foothills region.

Sincerely,

Ruth Zuckheim
Ruth Zuckheim, Executive Director
Montana Wildlife Federation
P.O. Box 4373
Missoula, MT 59806

cc: Governor Thomas Judge
Senator Max Baucus
Senator John Melcher
Congressman Pat Williams
Montana Department of Fish, Wildlife and Parks

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MONTANA PUBLIC LANDS COUNCIL
Old West Rangeland Monitoring Project
2819 2nd Avenue N. - 306 Pratt Bldg.
Billings, Montana 59101
(406) 248-3030

May 15, 1980

Mr. Greg Barry
Bureau of Land Management
Box 308
Butte, Montana 59701

Re: Comments on Mountain-Foothill EIS

Dear Greg:

Commenting on a volume of this size is not an easy task, but writing an EIS on as broken and complex area as this was not easy either. I was acquainted with much of the complex nature of the area before, but working around this EIS has surely brought new awareness of this.

As far as I can remember, there are very few if any of the comments on this EIS that I will note here that have not been discussed with the people in on the preparation project.

There are a few areas that seem to show a basic background that I have questioned.

The first of these concerns the impacts of the alternatives. I will confine my discussion to alternatives A, B, and E. It is a rather serious tendency to depreciate the limited action, Alternative B. It starts on the back of the title page with "would continue present management program" in the 2nd paragraph. Page 12 shows a rather different picture with a definition of continued operation of 26 AMP's and revision of 22 AMP's. These two headings are 45% of the total acreage planned for AMP's under alternative A. Cuts in proposed stocking rate under A are also imposed here. Thus, the only difference between A and B is the implementation of AMP's on 55% of the area, but the cuts proposed (page A-101, table 8A page 12) are just over 20% for this acreage. This is hardly the "present management". Even with the standard acceptance that cuts alone do not solve range distribution problems, this size of average cut will certainly impact the range. If past history is any clue, it should bring distribution problems into sharper glare. Areas under heavy impact will continue but areas under light impact will get a substantial drop in use. This depreciation carries through the summary, the discussion in Chapter 3 pages 170, 171 and 174 and shows in the condition tables 3-17, 3-18, and 3-21. This all shows that change in the basic resource will be down hill with 45% of the acreage under management and a 20% cut in stocking on non-AMP areas. Now we look at Alternative D and find the results of no cut in livestock and no revisions of AMP's is very close to the same result in the basic resource. It would appear that neither the revisions nor the cut are needed.

Now when we compare A and B we find that A will increase the good and excellent condition 16% but B will decrease it 3%. Since A and B treat the existing and

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revised AMP's the same, this swing has to come from the proposed AMP's. This acreage is 50% in good and excellent now (page 50 and 51). There is a 16% not identified so about 34% of the area has to do the job. That is very close to magic and a bit hard to believe.

A second concern is the overall treatment of range trend and the way it is used in this write-up. The summary (page 1, 5th paragraph, right side) starts with a sentence on deteriorating conditions, then a discussion of acres in poor and fair condition, then continues on to several positive statements on percentage in various trends. The next paragraph again ties conditions and trend as closely related items. Finally in the last paragraph of the same page there is a mention of apparent trend. I have not found the use of apparent trend again in this document except on page 49 last paragraph.

Trend is a difficult thing to establish. Dr. Stoddart on page 166 is quoted on what is needed to establish trend. Dr. C. Wayne Cook, who has also spent some time in the range field, stated it usually takes a minimum of five years and some good measurement to establish trend. Outside of a few AMP's you do not even approach this type of data.

Those bring out the comments I wish to make:

1. There is no necessary correlation between range condition and range trend, and it should not be inferred as it is in the SUMMARY cited above.
2. Where trend has not been carefully determined, it should be so noted. Apparent trend is a crutch we all use when lacking good data. We should be very careful to label such as APPARENT TREND. It is not labeled in this EIS.

This confusion on trend carries through and really shows in APPENDIX 3. The worst example I have noted is on page 7, Wallace Peak #0417. Here you show 198 acres classified as to vegetative type and conditions and 1,028 acres as waste area. Under trend data on the same page it shows 220 acres as static trend, 902 acres as downward trend and 158 as undetermined. To label an area as waste and then put range trend on it is a new twist and really should be justified. Unfortunately, although this allotment may be the worst example, this type of situation is rather common in this table. Dry lakes #0526 shows 530 acres of waste but only 492 with no trend. Copper Mountain #0531 shows 778 acres of waste but has trend on all but 138 acres. You yourself state (Page 170 right column, 3rd paragraph) "that waste and conifer were not included in Range Condition Projections." How come it is in trend?

A third general concern is in the handling of riparian areas. All the way through they seem to be the property and prerogative of wildlife and are discussed as such. They are not! These are high yielding areas and because of the water and the forage yield tend to draw and concentrate all users. The production is a part of the whole and as much the right of the livestock as it is the other users. They are also a definite part of the allotments, and the assumption they can be handled separately is questionable. Property lines tend to complicate the

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situation with much of the riparian inside private property. On public lands the proposal to fence them to protect them raises some real management problems and raises questions of impacts on the surrounding areas, costs of treatment, and the potential for some real red faces when larger than usual runoff occurs. It has happened both on a planned and non-planned treatment.

The methodology used to survey the riparian areas (Appendix 7) is all based on the woody species. All species seem to rate the same palatability. This is a questionable assumption as it has not been true elsewhere. Genus, family, form, class or growth have not been good consistent indicators of palatability. It even varies greatly with the animal that is the consumer. This across-the-board palatability rating, if true, is certainly the exception to all our other evidence. Then there is the photo on page 22a of "Good Condition Riparian" and the foreground area is largely grass. It simply shows what is true all over this state. There are very stable streams with largely grass cover on the banks. Your measurement ignores this.

I think my comments on riparian can be summarized as follows: A very heavy brush cover may be ideal for the fish and the whitetail but is tough on the hunter and can be absolutely impossible for the fisherman.

The arrival of some beaver can decimate the brush and canopy you so carefully measure without adding hazards to the area, unless they are allowed to overuse their type of forage and have to move out. Deserted beaver dams can break and really cause a lot of soil movement. Hornay's statement (page 228) would be equally true, "Such use may be detrimental to wildlife, aesthetic or recreational or other values."

A stable bank situation would benefit most values. From that point on what would benefit one may not do so for another value or use.

A fourth general concern is in the soil loss predictions shown in the first part of Chapter 3. The assumption that all actions create soil loss is questionable. I have personally seen where miles of fence were built with the only damage being a couple tracks of crushed grass. Likewise on pipelines, if reasonable care is used in backfilling it can be done with very little soil movement. Petroleum companies have built much larger lines with no attempt at best location. They usually follow a straight line no matter what the soils or slope. There are exceptions, but I have followed them for long distances with little soil loss to be found. Burning and spraying are much the same. You quote Oreitl (page 165) on the benefits of burning, but you didn't check with him on soil loss. He reports he could not even find ash movement on some burns and that had a good vegetative cover soon after a spring burn. A four-year loss figure would seem clear out of reason. Dennis Phillip's figures for soil loss from range in fair condition are certainly not true figures for many spraying jobs. I have seen blue bunch areas improve one full condition, from fair to good, the season of the spray job. This is hardly a four-year deal.

These all would seem to be worst possible condition figures and even allowed some for poor management in doing the job. They are not so noted in the discussion

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or on the tables. They certainly make it look like the BLM does not expect to do a good job.

A fifth area of general concern comes with the heading "Noxious and Poisonous Plants". You have grouped apples and eggs and as such some statements will be questioned. The second sentence (page 60) under this heading will be one. Those who have dealt with noxious weeds consider this a major problem if they are anywhere around. A statement on palatability (page 64, second paragraph) is questioned as leafy spurge is eaten by deer and possibly other wildlife, and in eastern Montana deer have played a role in the spread of this weed and also burdock.

On page 179 you introduce annual weeds into this group. Now we have live rabbits in the basket. I know of no county that considers any annual as a noxious weed. They are usually a management or cultural problem. I would also question a statement on page 183 in the fourth paragraph. I have personally seen where leafy spurge and dalmatian toadflax have succeeded in establishing themselves in some rock shrub, conifer and waste areas, and treatment gets to be a real problem.

Now to several small items:

Page 11 The third figure down drops 8% without showing where it went.

Page 49 In two columns of discussion you have tried to cross site and condition surveys and vegetative type and indicate you have used the best parts of both. I would surely like to see you convince Dyksterhuis, especially when the next 10 pages are on a discussion of vegetative type.

Page 58 (right column 2nd paragraph) Control of the beetle by silviculture requires access, and they tell me the present outbreak started in parks and wilderness areas. With the present wilderness proposals in this area, this is a problem in this area.

Page 58 (right column, 3rd paragraph, last sentence) The dead material may deter livestock, but somebody never told the elk. I don't know how, but I know they did go right through it and hardly slowed down.

Page 65 (1st and 2nd paragraph) If the mahogany is in that bad a condition, you have a forage problem; and there should be call for limiting the deer in those areas until it recovers.

Page 71 (right column, 1st paragraph) If the area is 34% public land, then it must be 66% non-public, and most of that winter and spring habitat is not provided by the public land.

Page 75 (first paragraph) You state "late fall and early winter use is substantial on adjoining public lands." Yes, and on private lands also there and around Flesser Mountain unless the ranchers who live there don't really recognize the elk.

Page 82 (last paragraph) Who is this Granville? Again on page 8-4, who is Granville, Stuart? Granville Stuart was an early cattleman, and I know about him.

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Page 88 (first paragraph) You raise the question of "How much predator loss is acceptable on public lands?" Most predators don't read land description very well. Total predator loss where those predators live and hunt is the total problem in our mixed ownership land pattern. I question if you can claim that one is ours but not the one over there.

Page 93 (right column) The sage grouse and Runs I've seen were never in the heavy brush of a riparian habitat in "good condition". They avoided them when I hunted them. The blue grouse didn't avoid them, but there were more birds in the patch brush and timber of the side hills.

Page 144 (F Elimination of Livestock Grazing) Congratulations - this is the best coverage of this I've seen in several EIS's. The one significant item still missing is the reason cattle will trail these fences. Most of these ownership boundaries are poor divisions of grazing management. Many of the private lands were fenced in the past, and the fences are gone because they tended to cause rather than help grazing management.

Page 148-151 (Compaction) There is an immense difference between rainfall compaction and that of feet and wheels. Rainfall damage is primarily surface and can seal even plowed ground without penetrating or compacting more than the surface fraction. This can cause quick runoff and considerable erosion. Wheels and livestock feet have a much deeper impact. A large share of this is localized to trails and concentration areas. While they may overlap, they are quite different.

Page 166 (third paragraph) The first line is a questionable statement. Adjustment of livestock numbers has been done in many areas without significant range change, especially in rough and uneven country. Proper use is a variable that may depend on many things such as species, season of use, or grazing system. The reason grazing systems have been developed and used is that this statement is not always true.

Page 171 (8 Limited Action, 2nd paragraph) It would be a much truer picture if acreage was used instead of allotment numbers. The 48 units constitute 45% of the BLM acreage, and the 138 units have 55% of the BLM acreage considered for treatment.

Page 171 (same paragraph as above) There will be NO improvement on riparian areas from a reduction in stocking if past history tells us anything. The improvement in rough areas from cuts in grazing is back away from impact areas.

Page 171 (C Improved Watershed, 3rd paragraph) Seedlings of introduced species are not meant to contribute to improved native range condition. They only do so indirectly if use of those seedlings allows range areas to improve. Let's not try to spread our own confusion.

Page 187 (Right column, 3rd paragraph),

Page 191 (1st paragraph),

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Page 204 (2nd paragraph) and

Page 206 (Under Alternative F, 1st paragraph) It is absolutely amazing to me that you can under 1 show portray 30 to 40 miles of fence as "presenting additional possibilities for entanglement" and under 3 show 100 miles as "the potential for further restricting antelope". Then under 2 the proposed 2,700 miles of fence would allow "entanglement to continue at about the present rate" and under 4 the same 2,700 miles of fence would "have minor impact on antelope". There is no difference in BLM fencing specifications called for. The first fences should be designed to interact the minimum of drift, at least for livestock. The larger fence job would be on property lines and have no regard for the animals or topography.

Page 209 (1st paragraph under Alternative D) The addition of AUM's is supposed to be done by increase of total forage, and no increase in proper use factors has been mentioned. Where do the "reduced forage supplies" come in? Where there is increased forage and use per cent is not increased there should be additional left for other uses. The species may change, but there is "increased forage".

Page 222 (under raptors) Your statement on eagle depredation is inaccurate as severe spring storms are common in Montana, and natural prey is very often scarce in early spring. If these conditions cause depredation, it will be common - not an occasional situation.

Page 228 (third paragraph) Your maintenance figure for fence appears to be an error. It is less than 1% of the original cost. That would be low for any fence. This type of fencing around riparian areas is a high maintenance job due to pressure from livestock and game, higher moisture situations, and poor choices for location to avoid snowdrifts.

Page 230 (under Alternative 8) Again the statement on improved riparian due to reduction in stocking rate. Just not so. Cuts in grazing numbers will improve areas away from impact areas such as riparian, but these heavy use areas continue to receive impact. This situation is the large reason for use of systems in grazing.

Page 245 (right column, 2nd paragraph) The last statement assumes that sagebrush is the "natural occurrence" and that grass is not. Elsewhere it is plainly stated with reference that livestock grazing and fire control had resulted in increased sagebrush. The only way I can read this is once again "natural" and "wilderness qualities" have no common meaning and can mean whatever somebody wants them to mean.

Page 245 (8 Limited Action, 3rd paragraph) Again there is the assumption that reduced grazing will automatically improve everything. It does not, as stated before.

Page 245 (8 Limited Action, 4th Paragraph) This paragraph is written proof that the writer had not even read the Alternatives. This alternative calls for about 20% overall cut in grazing on non-AMP's that would be AMP's under Alternative

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A. These cuts were supposed to be based on need as shown in range surveys. The "continuation of the same level of grazing on already overused non-AMP's" is an assumption well outside the Alternative. If it is referring to non-AMP's under all Alternatives it is even further out. Those areas were too small or broken for any management program and could hardly be a part of wilderness.

Page 247 (Recreation, 2nd main paragraph) It starts out, "In order to -". It would seem in the mind of the writer that the decision was made and recreation was it in the whole area. All this time I had thought the EIS was to present the management with choices. I know hunting and fishing think they are Number 1 priority, but that does not make them so.

Page 247 (Recreation, last paragraph continued on 248) There is much made of conflict with livestock along streambanks. No note is made that most of these areas are private land. No note is made that human waste and refuse are an even more limiting factor to floaters, campers, and fishermen, to say nothing of the land owners. No note is made that tall, ungrazed vegetation is ideal for mosquito reproduction and doesn't seem to hurt deer fly either. In a document that is supposed to bring out all sides, this discussion is rather one sided. There is a typo on line 10, page 248.

Page 248 (3rd paragraph) There is again an attempt to include the views of a few as a "public demand". "The public" is composed of many, many people, and there is a large share who are not so much in favor of the "primitive experience". If it were not so, there would be a lot less demand for 3 bedroom homes, indoor plumbing, and central heat.

I would like to thank you for the chance to comment on this EIS. If you find the comments a bit long, don't let it bother you as I found the document the same way.

Sincerely,

C. E. Hitch
Team Leader

CEB:da

cc: Mona Teigen
Pater V. Jackson
James R. Magagna
John J. Gerken
Gary Puppe
Chet Paxton
Dan Morgan
Mike Penfold - BLM
Larry Pointer - BLM
Dick Cosgriffe - BLM
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Wildlife Management Institute

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DANIEL A. POOLE
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Board Chairman

May 13, 1980

Mr. R. Gregg Berry, Project Manager
Butte District Office
Bureau of Land Management
P. O. Box 308
Butte, Montana 59701

Dear Sir:

The Wildlife Management Institute is pleased to comment on MOUNTAIN FOOTHILLS, GRAZING MANAGEMENT PROGRAM, DRAFT ENVIRONMENTAL STATEMENT, Montana.

We strongly prefer Alternative C, Improved Watershed Values and Wildlife Habitat, over Alternative A, the proposed plan.

Alternative A does have overall improvement of habitat for most wildlife species. However, the habitat improvement for elk is minimal. Strong revisions are needed for this most important animal.

If livestock reductions in Alternative C are not possible, the proposed plan should be modified to gain as much of the grazing reductions as feasible.

A new section on economics and values of wildlife should be added to facilitate the comparison with livestock economics.

On page 233, it is stated that 30 percent of the riparian areas will be poor to fair. This is about 150 miles, a very substantial amount of critical habitat. BLM manual provisions do not allow this condition. Necessary modifications should be made.

A special section on conflict resolution and mitigating measures will make it much easier to review and understand the plan.

The overall plan and understanding of importance of wildlife in this region would be improved if the Montana Fish, Game and Parks Department would set wildlife population goals and targets for the various herd ranges. Several Western states have adopted this procedure and Federal Land Use Plans are now some of the best for wildlife, as a result.

DEDICATED TO WILDLIFE SINCE 1911

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Mr. R. Gregg Berry

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May 13, 1980

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There is an error—page 12, right column, 2nd paragraph, line 3. Proposed initial livestock rate 141,897 AUM should be 110,033.

These remarks have been coordinated with William B. Morse, the Institute's Western Representative.

Sincerely,

Daniel A. Poole
Daniel A. Poole
President

DAP:bb

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OLD WEST GRAZING E.I.S.

MONITORING PROJECT

RICHARD "DICK" LOPER
RANGELAND SPECIALIST
P.O. BOX 1202
LANDER, WYOMING 82520

May 16, 1980

Mr. R. Gregg Berry
Project Manager
Butte District Office - BLM
P.O. Box 308
Butte, Montana 59701

Dear Mr. Barry,

Enclosed are my comments with respect to Appendix 7: Riparian Survey Methodology and Rating Criteria, in the Draft Mountain Foothills EIS.

I find it very difficult to believe that an Agency charged by law with the responsibility to manage Public Lands under the concept of multiple use, would choose to evaluate and rate such an important part of a rangeland in such a biased and arbitrary manner. Riparian habitats are a sub-ecosystem within the larger rangeland ecosystem for the geographic area described in the EIS. The riparian survey and rating method used in this EIS is sadly deficient if its purpose is to provide resource data based on sound ecological principles.

The BLM method shown on P. A-85 of the Appendix is based on a perceived direct relationship between riparian habitat condition and woody species quantity and vigor. This is not only a technically unacceptable concept if multiple use is the management goal, but practically unacceptable if feasible management of the ecosystem is to be accomplished.

The existing literature on riparian habitat survey procedures does not support the "woody species - habitat condition" theory used in this EIS. I suggest that the Bureau seriously consider the ecologically based concepts proposed in the U.S.D.A. - Soil Conservation Service National Range Handbook, the Montana SCS Grazing Guides, Daubenmire's Steppe Vegetation of Washington, 1970, and Mountain Grassland and Shrubland Habitat Types, Interim Report - 1974 by Mueggler and Handl. The latter is a U.S.F.S. publication and documents the importance of species diversity

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in riparian habitats. Their habitat type descriptions also show a wide variation in ecological importance and dominance between grasses and shrubs on various riparian habitat types located throughout Montana. The goal of multiple use management on the riparian habitats on Public Lands deserves a more objective treatment than they have received in this Draft EIS.

Dick Loper
Dick Loper
Rangeland Specialist

DLin1

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Defenders OF WILDLIFE

R. Gregg Berry, Project Manager
Butte District Office
Bureau of Land Management
Butte, MT 59701

Dear Mr. Berry,

I have reviewed the Mountain Foothills Grazing Management Draft Environmental Impact Statement for Defenders of Wildlife and would like to make the following comments.

The ELM has done an excellent job in the preparation of this document. Resource tradeoffs have been pointed out, and the alternatives further refine these points. The ELM should now listen carefully to public comment to insure their proposed action fairly reflects public opinion.

The Headwaters Resource Area is appropriately named, for the rivers and streams of southwestern Montana are among its most important resources. Rivers like the Madison, Big Hole and Beaverhead have national significance as fisheries and recreation areas and thus are quite important to local economies. Clean flows of water are also important to agricultural and municipal interests.

Further, the riparian areas that surround these watercourses are of inestimable value to wildlife. These areas, though small in actual area, provide habitat for a great number of species. Without good areas of riparian habitat, wildlife populations can be severely restrained, as these are critical food, cover and nesting areas. Because the riparian areas are generally small, the ELM has an excellent opportunity to protect wildlife while still providing substantial acreages for livestock grazing.

The glaring problem in an otherwise good grazing statement is that watershed and riparian habitat protection are not given the priority or detailed analysis they deserve. I was astounded to learn how severe the erosion problems in the Headwaters area are. Fifteen per cent of the area in critical or worse erosion condition is an astounding amount. Even worse, almost half of the riparian areas along streams and rivers are in poor to fair condition. These problems go hand in hand, as do their solutions.

While other resource conflicts were much more carefully detailed, the riparian habitat section was highly generalized. Given the national significance of these watersheds, the ELM should have made an attempt to quantify riparian and watershed problems on a drainage-by-drainage basis. Some rivers, like the Beaverhead, seem like they've already been pushed to the limit in terms of water quality. Other small streams, like Tom Creek and Odell Creek in the Centennials have suffered riparian damage that has hurt the fishery.

Further, the watershed problems cannot be considered individually. The total impact of sedimentation from degraded watersheds should be examined and synthesized. It may be that a few problem areas cause severe problems over a wide area.

1244 NINETEENTH STREET, NW • WASHINGTON, DC 20036 • (202) 659-9510

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Given that almost half of the riparian areas in the study area are in a deteriorated condition, the ELM needs to be stringent in improving this situation. Alternative A, which calls for elimination of grazing from only 5.8 miles of stream, is simply not enough. Alternative C, which would protect 19 miles of streambank, is the conservation-minded, multiple-use alternative. The ELM must keep in mind that we are starting from a position of significant degradation, and that small changes may not bring results.

Under the proposed alternative, nearly half of the riparian habitat could remain in an unsatisfactory condition. Given these areas extreme importance to wildlife, this is simply unacceptable. Research points out that cattle will hit these areas hardest and that they are slow to respond without specific management; therefore, we're likely to underestimate how severely livestock grazing can affect riparian areas. Alternative C strikes a balance between grazing and already seriously degraded riparian habitat; the tradeoffs, however, in terms of economics and resources, are not adequately explained.

Other points of concern include:

--the ELM paints a rather optimistic picture of how quickly the range and watersheds can recover with a 12.2% grazing reduction. As it pointed out in the DEIS, recovery of the bunchgrass range is not a fast process, and may in fact take six to eight years. The ELM should retain the latitude to make additional reductions should the range not respond as predicted.

--Defenders of Wildlife supports the reduction of early spring grazing by livestock, designed to benefit mule deer. With only 21% of mule deer winter-spring habitat in satisfactory condition, action is needed. We oppose the destruction of sagebrush winter ranges in areas 0311, 0335, 0481 and 0533.

--the ELM needs to strike a fair balance between elk use and cattle use on the public lands. Cattle and elk compete for both forage and space, and certain areas should be reserved for each. The more rugged areas where cattle cannot go have typically been the areas reserved for elk, but these areas do not take care of all the elk's habitat needs. Plans outlined in Alternative A to keep the elk herd at 1% of its potential in the Ruby Mountains or 5% of their potential in the Blacktail Ridge area are not acceptable. The ELM needs to be extremely sensitive to elk winter range needs as well, given the pressures this scarce habitat faces on private lands. This will also serve to ease degradation problems on adjacent private lands. Defenders recommends Alternative C for the 16 "crucial" habitat areas listed in Table 2-15.

--while the DEIS attempts to consider some of the needs of nongame wildlife, it only does so in a most superficial manner. Instead, the statement focuses almost exclusively on the needs of big game species, whose needs are wholly different from many nongame species. The ELM should consider a closer analysis of specific nongame animals as target species, representative of a certain habitat. By concentrating on the large ungulates, the importance of riparian habitat is somewhat understated. From a biomass standpoint, the small total area that comprises all of the riparian habitat for the resource area probably produces as much wildlife as all the rest.

--the problem with grayling in the Centennial Mountains area needs more explanation and consideration. The grayling populations in some of the small streams won't survive without streambank stabilization and sedimentation control.

172

172

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29a

Gallatin WILDLIFE Association

Boreman Montana 59715
c/o Lester A. Kieh
1914 South Route

MAY 17, 1980

R. Gregg Berry, Project Manager
Butte District Office, B.L.M.
P.O. Box 308
Butte, Montana 59701

Dear Mr. Berry:

On behalf of the GWA I would like to commend the B.L.M. on the excellent job done in preparing the Mountain-Foothills EIS. The manuscript appears to be quite complete and gives an unbiased analysis of grazing management, as well as the potential effects which may be achieved under the various management alternatives. Of particular interest to our group is alternative "C". Apparently, this alternative would provide maximum benefit for wildlife populations and habitats, while still allowing livestock use on public rangeland.

The GWA realizes the complicated nature of multiple use management. While we are not in favor of complete elimination of livestock grazing from public rangelands, it appears that the numbers and distribution of livestock will have to be managed if wildlife habitats are to be maintained and enhanced.

In designing any management plan it is essential that all wildlife habitat factors (i.e. food, cover, water, space, inherent nature of the game animal, etc.) be considered. The degree of interdependence of the tangible habitat factors as well as their mode of use by a given game animal should determine where, when, and if range manipulation practices (i.e. burning, spraying, etc.) are implemented. Also, reallocation of forage from livestock to wildlife is a step in the right direction. However, care must be taken in order to insure that the proper plant life forms, species, and their respective season and degree of utilization by a game species receives consideration.

To reiterate, the GWA favors implementation of alternative "C", as we feel that wildlife habitats, and especially riparian areas, require the type of management that will be afforded by this alternative.

28c

Defenders of Wildlife/page 3

In conclusion, the ELM has portrayed an area with serious resource problems. Nearly half of the streambank habitat is in unsatisfactory condition. About 150,000 acres are in critical erosion condition. Nearly half of the area is either in poor to fair range condition or unusable. Overall, the range trend is downward. Clearly, improvements are in order, particularly in regard to riparian habitat and watershed protection. If there is any ELM in the United States where these concerns should be paramount, it's the Headwaters Resource Area. The ELM must not underestimate the national importance of these rivers and streams. Alternative C steers the middle course in providing the protection these areas deserve, without undue cost or effect on the local economy.

Thank you for the consideration of these comments.

Sincerely,

Hank Fischer
Hank Fischer, Montana rep.
304 East Franklin
Missoula, MT 59801

178

29b

-2-

Thank you for your time and effort.

Sincerely,
Lester A. Kish
 Lester A. Kish

30a



Cooperative Extension Service

MONTANA STATE UNIVERSITY, BOZEMAN, U. S. DEPARTMENT OF AGRICULTURE, AND MONTANA COUNTIES COOPERATING

BOZEMAN, MONT.
 P. O. BOX 180
 BEAVERHEAD COUNTY
 DILLON, MONTANA 59725
 TEL. 683-2842

May 23, 1980
 Dillon, Montana

Gregg Berry
 Project Manager
 Bureau of Land Management
 Box 308
 Butte, Montana 59701

Dear Gregg,

Enclosed are a few comments I had on review of the Mountain Foothills Environmental Impact Statement.

Much of this review was done before the final document was published. So, my statements may no longer be valid.

Sincerely,

John A. Meeki

John A. Meeki
 Beaverhead County Extension Agent

JMA:b
 ENCLOSURE
 cc

ALL PROGRAMS AND MATERIALS PROVIDED BY MONTANA COOPERATIVE EXTENSION SERVICE ARE AVAILABLE ON A NONDISCRIMINATORY BASIS, REGARDLESS OF RACE, COLOR, SEX OR NATURAL ORIGIN.

30b

179

AI01 - Chemical Control of Sagebrush

"The time of application would be early or mid-May"

COMMENT: Too early in this area - should be more specific such as when sagebrush is actively growing - when the first new leaves are as large as old leaves carried over winter, or when Sandberg Bluegrass heads are emerging from the sheath.

180

Table 1-7

-Question average acreage disturbed per mile of new fence. This assumes each mile of new fence will disturb 1 acre of range or a band 8.25 feet wide.

-Question standard soil loss for all fencing operations. It seems if fencing was recommended at specific sites, soil loss could also be estimated for that site.

181

AI-11

Noxious weeds - No mention of provisions to control noxious weed infestations or intent to comply with State weed laws.

182

Table 3 - Alternative A-F

-Question soil loss of 1.5 acre feet per square mile, or 4.3 tons per acre per year as being equal for sagebrush spraying or burning to plowing and seeding or installation of fences, pipelines, & cattle-guards.

183

Chapter 3 - Page 41 - First Paragraph

-States that "The role of livestock grazing has not been demonstrated as significantly affecting infiltration and run-off in the context of hydrologic balance over the study area"

-However, on 3-41, paragraph #2, it states: "grazing tends to increase run-off and erosion by reducing plant cover and density and by compacting or detaching surface soils"

184

Surface Water Quality - 3-44

-Total EIS BIM area = 954,626 acres

-Table 3-12 - Total tons sediment yield 2,449,000 tons

$\frac{2,449,000}{954,626} = 2.56$ tons sediment/acre

-Soil losses due to erosion estimated at average of 4.3 tons per acre.

$\frac{2,449,000}{4.3}$ tons sediment /tons per acre = 569,534 acres average erosion

or 59.6% of EIS Area with Soil erosion

Cont. on 10/2

30c

Page #2

184

-There is no description on soil loss tons per acre figures for slight, moderate, critical or severe erosion. It's assumed the 4.3 ton per acre figure is an average of slight, moderate, critical, and severe erosion and the acreage of each classification involved.

185

Appendix Evaluation

Appendix 3

-Current and projected range condition & trend. Tables do not seem to be consistent.

-Some allotments in good to excellent condition have a current trend of static or downward.

-EXAMPLE: Mosman, Allotment No. 0011 - 1665 acres of grass in excellent condition, 1940 acres of good condition with a static or downward range trend.

-The extreme is also indicated where ranges in a good to fair condition have an upward trend. And, some of those allotments are scheduled for an increase in A.U.M.S. whereas other in good to excellent condition are scheduled for a cut.

186

Appendix 8 - Appendix 13

-Comparing these two appendices, they are not consistent with regards to proposed initial stocking rates.

-EXAMPLE: Allotment Cool Pine Creek -

Appendix 8 - Current licensed use 405 AUM

Proposed stocking rate 405 AUM

Appendix 13 - Current stocking level 405 AUM

Proposed Alt-A - Alt-B 530 AUM

-Stone House Allotment 0006 - Stonehouse

Appendix 8 - Current use 1985 - proposed 1985

Appendix 13 - Current use 1985 - Alt. A & B proposed 1985

187

Appendix 12 - Alt. C

-Improved watershed values and wildlife habitat - proposed stocking levels are drastically reduced again on all allotments.

188

Appendix 14

-Proposed Range developments - question the standard 8' disturbed area for all fence construction on all proposed fencing sites.

31a

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
FEDERAL BUILDING
P.O. BOX 7668
MISSOULA, MONTANA 59807

1950

MAY 16 1980



USDI Bureau of Land Management
R. Gregg Berry, Project Manager
Butte District Office
P.O. Box 308
Butte, MT 59701

Dear Mr. Berry:

Thank you for the opportunity to review the Mountain Foothills
Grazing Management Program Draft Environmental Impact Statement.

189 We are concerned about the affect the proposed grazing program
will have on grazing permittees on adjacent National Forests.

190 The statement generally is well written; however, there are a
few statements that appear to be contradictory.

There is some confusion in the use of terms because of the way
in which we, and many of the readers, have been conditioned to
think. On page 11 of the summary, there is a statement that
says, "acreages of good and excellent ecological range conditions
are projected to increase by 16 percent by the year 2010." In
the same alternative, it also states, "that elk winter-spring
habitats would improve moderately but summer-fall habitats
would remain 40 to 50 percent unsatisfactory." The confusion
arises because in the first statement the writer is talking
in terms of ecological range conditions or condition of the
vegetation only. In the second statement when talking about
habitats, the writer is talking not only of ecological range
conditions, but also of space. Since ecological range condition
is similar in both cases and the difference in habitat condition
is caused by the area being less suitable because of competition
between species of animals, it would be better if the cause
were more specifically pointed out or suitability was used instead
of condition when referring to something other than ecological
condition.

Similar statements are found on pages IV and V of the summary and
pages 196 and 200 in the section on Environmental Consequences.

Sincerely,

R. Gregg Berry
R. GREGG BERRY
Regional Forester

32a

STATE OF MONTANA



DEPARTMENT OF

FISH AND GAME

8695 Huffine Lane
Bozeman, MT 59715

May 15, 1980

R. Gregg Berry
Project Manager
Butte District Office
Bureau of Land Management
P. O. Box 308
Butte, Montana 59701

Dear Mr. Berry:

We have received the draft of the Mountain Foothills Grazing Manage-
ment Program (E.I.S.).

191 Our review has been limited due to time restrictions and other work
priorities. We have tried to be specific where possible, recognizing
that the extensive nature of this document has made it impossible for us
to closely analyze each allotment. We hope to be involved in future
management decisions on all allotments where range practices will affect
the quality of wildlife habitat.

The following comments relate to specific allotments as they relate
to the various wildlife species.

Impacts on Deer Habitat AreasSummer-Fall

192 The treatment prescribed for grazing in the Gallagher Mountain
Allotment (0013) and Armstead-Upper Sage (0007) Allotment under the
existing grazing systems have not resulted in improved habitat for deer
and elk during the summer-fall season. Under Alternative A, a reduction
in A.U.M.'s is proposed in the grazing in the Armstead-Upper Sage Creek
Allotment. Your Alternative C supports a greater reduction in A.U.M.'s.
We are concerned about excessive use in these allotments and feel that a
reduction is warranted in both allotments (0007 & 0013). Impacts on
soils tables certainly support an alteration in the proposed grazing
plan in both of these allotments.

32b

R. Gregg Berry
May 15, 1980
Page 2

Impacts on Deer Habitat Areas (Cont.)Winter-Spring

193 The proposed grazing plans for Hansen Creek (0108) under Alternative
A could potentially create a conflict between deer and domestic sheep.
Fall and winter grazing of sheep on and immediately adjacent to mahogany
ranges will reduce important browse availability for deer. We support
Alternative C which would adjust sheep distribution to reduce the possi-
bility for conflict.

194 The Low Low Basin (0335) Allotment is used fall-early winter by deer.
The proposed sagebrush burns should be planned in such a way as to avoid
removing important sagebrush stands.

The two allotments, Glendale Common (0311) and Browns/Cherry Creek
(0320) contain important fall-spring range for a significant number of
deer. We object to plans to extensively remove sagebrush on these two
areas due to the importance of this browse specie to deer. Burn or spray
operations should be planned only after incorporating recommendations
from Fish & Game and B.L.M. wildlife biologists. Sage removal should be
kept low key until such time as benefits or at least no adverse impacts
to deer can be determined.

195 In the Mayberry Allotment (0143), the proposed grazing plan prescribes
RR, OR use from May 20-October 15. We feel that on this important wildlife
wintering area that conflicts will occur. The season of use is too long
to allow for regrowth. In addition, the literature documents that domestic
sheep and deer food habits parallel each other and the proposed plan will
not reduce the competition that will occur in this allotment. Alternative
C includes a reduction in this allotment which may be necessary to reduce
the competition in this allotment.

196 The Timber Creek Allotment (0533) is recognized as a significant
mule deer wintering area. Our records support over 800 deer winter in
this location. In the past, we have had conflicts with other interests
with respect to mule deer. We feel that the proposed grazing system will
not help correct the situation. We recommend that the stocking be reduced
as proposed in your Alternate C proposal and that the grazing be monitored
so that less than 30% grazing occur in pastures with deer winter range.
The proposed sagebrush burn will have a detrimental impact on mule deer in
this vicinity. The removal of sagebrush will affect both feed and cover.
If we are to sustain the mule deer population in this location, browse
species must be maintained or improved.

197 The proposal plan for the Brandon Pasture (0481) calls for a reduction
in the stocking rate. This is an important wildlife wintering area and
we support the reduction. However, on the year of use in an alternate rest
grazing system, we feel use should not exceed 30%. We oppose the proposed
75 acre burn in this allotment since it will remove food and cover necessary
for mule deer that winter in this area. We expect the range to recover with
restricted grazing and rest, which should eliminate the need to burn.

32c

R. Gregg Berry
May 15, 1980
Page 3

Impacts on Deer Habitat Areas (Cont.)Winter-Spring

198 In the Dry Boulder Allotment (0326), it is difficult to understand why
you propose a sagebrush burn on this allotment. Sagebrush provides both
feed and cover for mule deer that winter in this area. The area is marginal
livestock habitat and the June 1-October 1 grazing period will need monitor-
ing in order to avoid excessive use even with the proposed A.U.M. reduction
which we support.

199 The Belmont Allotments (0665 & 0469) both show a reduction in A.U.M.'s
under the proposed grazing management program. These allotments are im-
portant wildlife wintering areas and we support the A.U.M. reductions.
Mule deer, sage grouse, and antelope winter in this area and wildlife needs
have not been met. Numerous private acres of sagebrush have already been
manipulated and the public land (B.L.M.) becomes critical if wildlife popu-
lations are to survive. The use on these areas by livestock should be
carefully controlled so as not to exceed 30%. We are strongly opposed to
the winter grazing proposed for the Belmont Allotment 0469. The sagebrush
burn and spray proposed for this area as well as water developments, strongly
suggest that livestock grazing is of the primary importance in this important
wildlife area. Our data on wildlife populations show that a conflict will
occur under your proposed plan. We suggest that the proposed plan be revised
to include the wildlife needs for this allotment.

Impacts on Elk Habitat AreasSpring

200 A small number of elk have been observed using the Low Low Basin (0335)
area during the calving period. Sagebrush provides excellent cover for
calves at this time. Plans to extensively remove sage in this allotment
should be adjusted in order to leave adequate cover.

201 For the Ballard Allotment (0456), the proposed grazing management
program includes a sagebrush burn and June 15 grazing date. Both proposals
will have an adverse impact on this allotment because of the conflict with
elk calving. We would prefer a later-on date and have the opportunity to
review the proposed burn area.

202 Although the Mill Gulch Allotment (0475) is not scheduled for a burn,
the proposed early (June 1) on date is in conflict with elk calving which
occurs in the area.

Summer-Fall

Several proposed grazing allotment action plans will not improve
summer-fall habitat for elk. Of principle concern are allotments in the
Blacktail Ridge and Ruby Mountains.

32d

R. Gregg Berry
May 15, 1980
Page 4

Impacts on Elk Habitat Areas (Cont.)

Summer-Fall

203

The current condition of summer habitat in the Ruby Mountains is very poor (Allotments 0479 & 0530). The proposed grazing plans will not improve the vegetative condition in spite of the proposed A.U.M. reductions which we support. To benefit elk and vegetation, pastures of rest must be provided. Rest pastures, if provided, would enhance the allotment for game birds, deer, and numerous non-game species. The riparian areas are seriously depleted of vegetation and need rest to recover and provide for wildlife needs.

Several allotments in the Blacktail Ridge under the proposed grazing plans will remain in unsatisfactory condition (0002, 0003, 0013, 0147, 0117, and 0136). Important elk habitat should be provided in allotments: Clark Canyon (0002 & 0003) and Gallagher Mtn. (0013). Without a rest pasture, we can't expect vegetation and elk habitat to be improved. A conflict occurs in Alternative A and Alternative C in these two allotments. We support a substantial reduction in A.U.M.'s in both 0002 and 0013 allotments along with a rest pasture in the Upper Mesic areas. Impacts on soil's tables certainly suggest that an unfavorable soil situation will exist under Proposal A.

204

The Price Creek Allotment (0040) under an existing allotment management plan is extensively grazed. This allotment is an important spring-fall and winter area (depending upon snow depths and grazing) for elk and moose. The past seasons' grazing has been excessive and the A.U.M.'s should be reduced to accommodate elk and moose needs.

Although elk summer-fall areas are not critical, they also provide the habitat which hunters seek in hunting elk. For this reason, the habitat is under constant scrutiny and vast areas with extensive grazing potential are eliminated. The high degree of soil under the severe erosion class in Price Creek (0040) will certainly cause public concern.

Winter

205

Custodial tract Squaw Creek (0462) contains elk winter range. Livestock utilization should be monitored on this area to determine the amount of residual forage left for elk. Additional A.U.M.'s should be allotted for wintering elk needs if domestic stock use is excessive.

The Copp-Jackson Allotment (0301) is located on critical winter range. Present utilization and pasture management appears suitable for wintering elk needs. A small reduction in cattle A.U.M.'s as listed in Alternative C would improve forage availability for elk during the winter stress period.

The custodial tract, Warm Springs, contains important elk winter range primarily in that portion north of Woody Creek. We concur with the recommendation to "block up" this area with land exchanges involving the other

32e

R. Gregg Berry
May 15, 1980
Page 5

Impacts on Elk Habitat Areas (Cont.)

Winter (Cont.)

205

smaller associated tracts. We recommend excluding the portion north of Woody Creek from livestock.

206

The custodial tract, Steel Creek (0743), receives various degrees of winter elk use dependent on annual snow depths. This parcel has a past history of heavy livestock use. Residual forage is often in short supply off of the Forest Service rest-rotation allotments. Excluding this unit from livestock use would be very beneficial for elk.

Taylor Ridge and Bachelor Mountain (0031 and 0030) receive winter use from elk out of the Big Hole-Grange country. These allotments are adjacent to each other. We concur with the recommendation to provide for a minimum of 375 A.U.M.'s of forage for elk between these two pastures.

207

Few allotments provide the opportunity to increase elk as does the B.L.M. lands in the Greenhorn Mountains. The potential could be realized if Alternative C were proposed and instigated. The Idaho-Jack Creek Allotment (0499) would provide for a significant elk population increase if livestock grazing were excluded. This area because of its terrain is probably best suited for wildlife (elk).

208

The Price Creek Allotment (0040) (already discussed under elk impacts, summer-fall), Wisconsin Creek (0501), Strawberry Ridge (0421), Preacher Creek (0404) and Robb Creek (0631) all lack a grazing management plan which will provide for the winter feed for elk. Several of these allotments allow permitted grazing into late October. Our studies have shown that late livestock grazing conflicts with winter elk feed requirements. For each of these important wildlife areas, we recommend the following: Wisconsin Creek - reduce the stocking rate as listed under Alternative C; Strawberry Ridge - reduce the stocking rate as listed under Alternative C; Preacher Creek - this allotment needs a rest treatment, a shorter grazing season (Oct. 1) and a reduced stocking rate as indicated under Alternative C; Robb Cr. (0631) - the scattered tracts make it difficult to manage this allotment. This allotment contains 763 acres of B.L.M. ground in a major elk herd wintering area. It is not in the best interest of the public to allow continued single interest use in this allotment. We recommend that a land trade be negotiated which would block-up land suitable for big game winter range management in the Snowcrest Mountains.

209

Under an existing plan, Robb Creek (0167) shows a reduction in grazing under Proposal A and C. Also, rest is scheduled in one of the two pastures each year. We would like to see compliance with this commitment and a reduction in the stocking rate. This allotment joins one of the major elk winter ranges in the State of Montana and Alternative C is certainly justified.

210

Numerous scattered unallotted tracts are proposed in the E.J.S. We support the unallotted tracts as proposed and feel that in many instances, fencing will be required to protect the areas from livestock grazing.

32f

R. Gregg Berry
May 15, 1980
Page 6

Impacts on Antelope

Yearlong

211

The Cross Allotment (0033) is an important antelope winter range as well as also providing seasonal habitat for some of these animals. The extensive sagebrush plow and reseed proposal threatens to remove sagebrush vital as food and cover for antelope. Any sage removal should initially be on small experimental plots that would involve seeding of desirable forb species along with grasses. This activity should be coordinated with recommendations from B.L.M. and Fish & Game biologists.

The Belmont Allotment (0469) has been pointed out under deer habitat area write-ups as an important wildlife wintering area. Antelope occur on this allotment yearlong. Spraying of sagebrush and proposed water developments will undoubtedly have a detrimental impact on antelope and other game species (mule deer and sage grouse). We strongly oppose any sagebrush manipulation proposed for the Belmont Allotments.

212

The Rock Creek Allotment (0512) under the proposed O.R. grazing system is scheduled for a reduction in A.U.M.'s. We support this reduction and question the reason why water wells are proposed for this allotment. This is the only large tract of land in the Blacktail with potential antelope habitat which is virtually devoid of antelope. The existing barrier type fences have basically excluded antelope from this allotment. We feel that antelope passages can be located in key locations (so as to avoid entrapment). Under Proposal A, the allotment will not have sheep in the area during May (the lambing period). Conflicts with eagle populations should be minimized.

Impacts on Moose Habitat

213

The 40 acre land tract, portion of the Warm Springs Custodial, located on the Warm Springs Creek bottom contains dense willow stands important for wintering moose. The integrity, condition and quality of these willows should be maintained, particularly in view of the extensive nearby willow removal on private land downstream.

We concur with the recommendation to exclude livestock use along a portion of Taylor Creek (Red Mine-0034) due to use of the area by wintering moose, erosive problems and deteriorated riparian habitat.

214

Our population surveys have shown that the moose population in the Tobacco Root Mountains has declined over the past ten years to a point where no permitted moose hunting is allowed. We feel that the lack of adequate habitat, because of conflicts with livestock grazing, is a primary factor in the population decline. We are particularly concerned about proposed management plans that will not enhance the riparian zones. Principle allotments with moose habitat and potential conflicts include: Mill Gulch (0475), California Creek (0507), Dry Lakes (0526), Granite-Moose (0669), Benchmark (0489), Wallace Peak (0447), Preacher Creek (0404), Moran Creek

32g

R. Gregg Berry
May 15, 1980
Page 7

Impacts on Moose Habitat (Cont.)

214

(0440), Strawberry Ridge (0421) and Copper Mtn. (0531). Allotment management plans should provide the treatment (rest) which will restore vegetation on the riparian zones and provide feed for moose in these allotments.

215

In the past, the Ruby Mountains (0479 & 0530) provided habitat for moose to winter. Recent grazing practices have deteriorated the riparian zones and virtually eliminated the potential for moose. With adequate rest, these zones would recover and moose could reestablish these areas.

216

The riparian zones in the Price Creek Allotment (0040) are in unsatisfactory condition under the existing grazing management plan. A reduction in A.U.M.'s to a degree of range recovery is necessary in this allotment. The Centennial Valley is a major moose area and summer-fall and winter habitat provided by the B.L.M. grounds are critical to moose. Other allotments in the Centennial which are important to moose are Long Creek (0152) and Jones-Peet (0730). The late season on Long Creek (December 15) will conflict with moose in this allotment. This area was once an important moose wintering area and attempts to improve livestock grazing have virtually eliminated the potential for moose. In addition, the May 1 turn-out day is to early under the deferred rotation system to expect a recovery on browse. This system will probably not benefit moose and the riparian zone.

217

Time does not permit a complete review of allotment management plans as they would relate to the riparian (moose) zones. On Pg. 214, first paragraph -- "24.85 miles (33 percent) would remain in unsatisfactory condition." In addition, "23 allotments would show no change in riparian quality." Can the B.L.M. afford to tolerate such a magnitude of degraded habitat in a zone of high recreation, scenic and wildlife use areas? In many instances, grazing plans can benefit these zones whereas in others the only thing to do is fence out the riparian zones.

In the East Fork of the Blacktail-Robb Cr. (0167), we support a proposal to fence livestock from the riparian zone on the B.L.M. lands. As pointed out previously, this is a critical wildlife winter range and both elk and moose as well as fisheries, recreation and aesthetic values will be enhanced.

Impacts on Sage Grouse Habitat

218

The Low Low Basin (0335) Allotment contains a strutting ground. Nesting and brood rearing activities take place adjacent to breeding areas. Extensive sagebrush removal in this basin would adversely affect these birds. Any sagebrush control should be coordinated with recommendations with B.L.M. and Fish & Game wildlife biologists.

The Cross Allotment (0033) contains one known strutting ground as well as wintering areas for sage grouse. The extensive sagebrush plow and reseed proposal is a serious threat to these birds. Any sage removal should initially

32h

R. Gregg Berry
May 15, 1980
Page 8

Impacts on Sage Grouse Habitat (Cont.)

218

be on small experimental plots that would involve seeding of desirable forb species along with grasses. This activity should be coordinated with recommendations from B.L.M. and Fish & Game Biologists.

The Belmont Allotment (0469) with a 1,500 acre proposed sagebrush spray would have an adverse impact on sage grouse. We favor a natural vegetative recovery by a reduction in stocking rates as indicated under deer and antelope recommendation write-ups for this allotment.

219

The Sweetwater vicinity provides some of the finest recreation in terms of sage grouse hunting in Madison County. We feel livestock stocking has been excessive to a point where sage grouse habitat has been reduced. Our recommendation is to adjust stocking rates to provide feed and cover in important sage grouse habitats in the Sweetwater Basin and Sweetwater allotments.

Impacts on Waterfowl Habitat

Most of our concern about waterfowl habitat will not be directed at individual allotments but general grazing practices instead. Residual cover is extremely important if successful waterfowl production is to occur. Several of the areas where waterfowl production could be enhanced (i.e. Centennial) contain small isolated tracts of B.L.M. ground. Since it is not practical at this time to manage these areas for wildlife, it is important that the permittee recognize that the public is still interested in multiple use on these lands. Tolerance to the public should minimize the conflict which could occur.

Nesting structures, pothole development access, providing feed and cover will all benefit waterfowl. We support proposals which improve these areas since several species of game and non-game will benefit.

Jerry Cr. Allotment 0318

We agree there shouldn't be an increase in A.U.M.'s on the Jerry Cr. allotment. The grazing system should be kept as is unless a better grazing program for wildlife can be worked out through the land stewardship program.

McCartney Mtn. 0323

220

We are opposed to increasing the stocking rate in this allotment as a conflict would likely result between wintering elk and cattle. More cattle in this allotment would force livestock into areas currently grazed by elk during winter.

32i

R. Gregg Berry
May 15, 1980
Page 9

Highlands (H.D. 340)

There are several cattle grazing allotments in H.D. 340 discussed in this impact statement. We feel cattle grazing should not be increased on any allotments in this hunting unit which provide habitat for elk, mule deer or antelope populations. We are glad to see an increase in grazing is not planned on most of the allotments.

221

In some cases water developments to change livestock distribution in this area may be detrimental to wildlife populations. Department personnel would like to be contacted and provide recommendations on planned livestock water projects.

Fisheries Comments

222

In general, we feel that the proposed grazing management plan is a step in the right direction in protecting riparian zones on B.L.M. land. Lew Myers, BLM Biologist in Oillon Area Office, has done a tremendous amount of work in classifying riparian zones and is to be commended. The projected increase in percentage of riparian zones in satisfactory condition from 53% to 70% is a positive step in protecting these important areas. However, the 30% that will remain in unsatisfactory condition constitute 150 miles of streams and are a source of concern to our Department.

We are particularly concerned with the allotments on which residual adverse effects to riparian zones would occur under your proposed management. We are most concerned about allotments along the Madison and Big Hole Rivers where riparian zones would continue to be adversely impacted according to Table 3-30 from the E.I.S. The Madison and Big Hole Rivers support fisheries of national importance and are deserving of your protection. According to Table 3-30, allotment number's 0524 and 0457 will continue to suffer adverse effects to the Madison River riparian zones under your proposed management. These negative effects include approximately 3.2 miles of river bank. Allotment number 0462 along the Big Hole River would also continue to suffer adverse effects to its riparian zone under your proposed management. This includes nearly 0.75 mile of river bank. We would strongly urge that grazing management plans for these areas be modified to eliminate these negative impacts.

The remainder of the allotments with riparian zones that would be adversely effected by your proposed management in Table 3-30 are not located along major fisheries. However, several of these riparian areas occur along streams that support fisheries and the majority of them are tributary streams of high quality fisheries. Therefore, their importance in providing good quality water to the mainstem rivers in the area is paramount. Adverse effects to their riparian zones threatens water quality and fish habitat.

We are familiar with the riparian zones in some of these allotments that are currently in very poor condition and will continue to be adversely affected under your proposed management (Table 3-30). They include allot-

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R. Gregg Berry
May 15, 1980
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ments number 0479 (3.9 miles of Cottonwood Creek), 0003 (3 miles of Clark Canyon Creek), 0040 (3.5 miles of Price Creek), and 0020 (Black Canyon Creek).

General Comments

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Numerous non-A.M.P.'s are listed with several changes proposed. Changes in many instances include an increase in A.U.M.'s. A complete evaluation is not possible at this time because of the time permitted to respond to this E.I.S. Obviously, we are interested in such significant changes as Steamboat Rock (+1,487 A.U.M.'s) where A.U.M.'s have been added. In other instances, significant A.U.M.'s have been dropped and in many instances we can support the reductions. The B.L.M. should be interested in exchanges, fences or whatever is necessary to best manage the lands.

Our intention is not to review the economic aspects of the proposed E.I.S. It is apparent that considerable sums of money will be spent to improve livestock grazing. We would also expect that economic considerations for wildlife be a part of the objective to improve B.L.M. lands in southwestern Montana.

Wildlife populations should be given primary consideration for the use of any additional forage provided by improvement in the land resulting from this plan. Under the proposed action, 86% of future A.U.M.'s resulting from improved land management would be allocated to livestock.

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The importance and uniqueness of the wildlife resource in southwestern Montana cannot be over emphasized. To properly recognize and provide for this resource, in our opinion, necessitates the adoption and implementation of Alternative C (Improved Watershed Values and Wildlife Habitat). This alternative also provides for livestock grazing at a level of use of 74,785 A.U.M.'s.

The B.L.M. should be acknowledged for the effort made to illustrate effects of their proposed action on the resources under discussion. There is more analysis and effort in this document to point out the beneficial and adverse impacts that the various alternatives have on the wildlife resource than we have seen to date in an impact statement involving public lands. We very sincerely appreciate this effort.

We would welcome any opportunity to work with the B.L.M. in on-ground reviews in any areas of concern or of conflict in view to assist in your decision making process in the future.

Sincerely,
Fletcher E. Newby
Fletcher E. Newby
Deputy Director

jtb

33a

Dear Mr. Berry,
I just received a copy of Planning
Foot Hills Grazing Management Program. (May 15)
My only request is that your
deadline for comments be extended.
If not, I guess I would have
to support your proposed action.
I'm sorry this is so brief but
I just haven't had time to review the
whole EIS.

May I please get on your mailing
list for any future publications.

Thank You
Larry Baker
242 Bridger View
Bozeman MT 59705

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The Wilderness Society

107 West Lawrence, Helena, Montana 59601 (406) 443-7350
Mail to: P.O. Box 1184

June 2, 1980

R. Gregg Berry, Project Manager
Butte District Office
Bureau of Land Management
P.O. Box 308
Butte, Montana 59701

Dear Mr. Berry:

On behalf of The Wilderness Society I wish to comment on the Mountain Foothills Grazing Management Draft EIS (DEIS). I realize that the comment deadline was May 16 but for some reason I was not sent a copy of the DEIS through the normal distribution process. In fact, I first learned quite by accident that the DEIS was out on May 14. On that date I asked Jack McIntosh to send me a copy and I then ultimately received the DEIS on May 20. I therefore request that you accept this letter as formal comment since its lateness is through no fault of mine.

First of all, I am much impressed with the high quality of the DEIS. It is extremely readable with excellent graphics and maps. I'm sure that I'll regard the DEIS as a valuable source document on grazing systems and ecological relations between livestock grazing and other resource uses for years to come.

I will begin by stating our total opposition to Alternative F. Livestock grazing is a legitimate and necessary use of our public lands and, with proper management, I hope that it will always remain so. The effect of Alternative F would be to drive many of the 370 ranch families that lease BLM grazing in the study area out of business. In my view, the traditional ranching lifestyles and natural values of wilderness and wildlife which characterized southwest Montana have co-existed well in the past and should continue to so in the future.

I do have some concerns about whether the wildlife and riparian zone benefits attributed to the proposed action (Alternative A) can be achieved with only a 12.2% reduction in AUMs from the current permitted use. I'm very familiar with much of the BLM land in the study area and I know firsthand of the deteriorating condition of much of the rangeland. I'm appalled to learn that 47% of the stream bank habitat in the study area is in unsatisfactory condition. A wise and conservative approach to riparian livestock grazing is essential if these critical sites for wildlife, fisheries, watershed and recreation are to achieve their habitat potential.

I urge that when you select a final alternative you combine the strong features of several of the six alternatives. For example, we generally favor Alternative C as the one with the best formula for long-term management of the renewable resources. However, the land management prescriptions for individual AMPs should be tempered along the lines of Alternative A in those few instances where inordinate economic hardship would be sustained by the affected grazing permittee.

The study area includes 3 ISAs (two of which have been tentatively recommended for wilderness designation) and a number of WSAs which contain important wilderness values. I feel that the proposed action as well as Alternative C are consistent with the Interim Management Policy for WSAs. Over time, wilderness values would be enhanced.

"In wildness is the preservation of the world." - Thoreau

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page two

Under reasonable and flexible wilderness management all grazing permittees operating within any WSA or designated wilderness will be benefited. Necessary range improvements will be allowed and motorized equipment within wilderness by the grazing permittee should be allowed when the use of such equipment is the only practical way to go.

Thank you for the opportunity to belatedly submit these comments. I wish you every success in the finalization and implementation of the EIS.

Sincerely,

Bill Cunningham

Bill Cunningham
Regional Representative
CC
Governor Thomas Judge
Senator Max Baucus
Senator John Melcher
Congressman Pat Williams
Montana Department of Fish, Wildlife & Parks

RESPONSES TO COMMENTS AND LETTERS

1. Yes. This alternative, by definition, allocates all additional usable forage to livestock and to no other resource need. These additional allocations would be made after proper use deductions were conducted.

2. Final decisions regarding the allocation of forage for livestock will be made during 1981 on an individual allotment basis. Current BLM policy requires that a Rangeland Management Program Document (RMPD) be published no sooner than 30 days after the final EIS is approved by the director of the Bureau of Land Management.

Allotment management plans (AMPs) will be revised and finalized, and range developments will be constructed during fiscal years 1981 through 1984. Possible constraints that would delay implementation and/or extend the schedule beyond fiscal year 1984 are inadequate funding or the lack of appropriate personnel to survey, design, and administer range projects.

3. The issues raised in the Rio Puerco litigation will be addressed by a grazing adjustment policy that is currently being formulated. The new policy will meet the consultation requirements of the Public Rangeland Improvement Act of 1978. Grazing use adjustments may be "phased in" over a three-year period rather than the entire reduction taking effect in one year, if a significant economic hardship on a livestock operation can be shown.

4. The season of use shown for your allotment (0116) in Appendix 8 in the draft (7/15 to 9/15) is in error. An entry in the Errata section of this document, under page A-91, changes the date to read 7/15 to 10/15.

5. Appendix 20 does not include all allotments; it only highlights some of the significant impacts and the tradeoffs on livestock grazing that were identified during the planning process. Management Framework Plan (MFP) recommendations for each allotment may be reviewed by consulting the MFP narratives and maps at the Dillon Resource Area office.

6. The Deep Creek ski area was not discussed in the draft EIS because it is not managed by the BLM, although the site is located on public lands. The ski area is leased to the Deep Creek Ski Club, a nonprofit organization, under terms of the Recreation and Public Purposes Act. It is not considered a public facility.

The range survey shows a total of 253 Animal Unit Months (AUMs) on this allotment, including some allocations for clearcut areas. Utilization deductions were made for slope and timber. The result of the survey was a net decrease in AUMs. Al-

though slopes below timberline are suitable for livestock, the upper steep slopes of the ski area were considered unsuitable for livestock use.

7. BLM policy provides for modification of existing fences that restrict or alter wildlife migrational or seasonal movements. Numerous studies show that fences with bottom wires less than 16 inches above the ground or top wires more than 42 inches high severely inhibit deer and antelope passage, as well as passage by the young of all big game species. Sheep-tight woven wire fences are a major inhibitor of antelope movements. It should be noted that proposals for fence modification vary between alternatives, depending on the emphasis placed on improving wildlife habitat.

8. The "other acres" column includes any land not administered by the BLM but within allotment boundaries, such as federal land administered by the Forest Service, as well as state and private lands.

9. The following criteria were considered in evaluating the forage production in 25 years on each individual allotment:

- a. Present livestock forage production
- b. Potential forage production based on soils
- c. Present range condition
- d. Type of vegetation present
- e. Type of grazing system to be applied
- f. Type and amount of vegetation manipulation to be applied
- g. Any water developments that would improve livestock distribution

The criteria were applied to each allotment, and a professional determination was made of the percentage increase in forage in 25 years. This was then multiplied by the current livestock forage available.

The criteria for projecting range condition for the proposed action (Alternative A) are given in table 3-14, and an example of how these projections were made is shown in tables 3-15 and 3-16.

Estimates of future range condition on each vegetation type for Alternatives B through F were based on professional judgment, cited literature, and consideration of the differences between an alternative and the proposed action in such factors as stocking rate, grazing systems, and seasons of use.

10. The majority of proposed livestock reductions in the study area were made because of unsatisfactory range and erosion condition, poor

erosion condition, declining trend, or lack of forage to support existing livestock numbers, not for wildlife allocations. Only 1,443 AUMs currently used by livestock were specifically allocated for wildlife in the study area, although wildlife would also benefit from reductions made for other reasons such as range condition.

11. The intent of the map in question was to portray the quality of fishing opportunities for streams that flow at least partially through public lands. Placement of the quality rating symbol was dictated primarily by available space on the map where the symbol could best be seen. There was no intent to rate the portion of the stream that flows through private land.

12. The Butte District manager is not required to select any one alternative in its entirety. When the final grazing management program is selected, public comments and the results of the analysis in the draft EIS will be considered.

13. The Butte district manager is responsible for revising, finalizing, and implementing new AMPs. Finalized AMPs may later be modified when the results of monitoring studies on vegetation, soils, and other resources are known. Monitoring and evaluation of AMPs is discussed in chapter 1 of the draft EIS. The district manager's final decisions will be issued after careful weighing of all resource values and multiple use considerations.

Any operator who is adversely affected by a decision has the right of appeal, as provided in Title 43, Code of Federal Regulations (CFR). In most situations, a proposed and final decision would be issued in accordance with 43 CFR 4160, "Administrative Remedies." The operator would have the opportunity to protest the proposed decision and to appeal the final decision.

Where resource conditions require more prompt action, full force and effect decisions would be issued in accordance with 43 CFR 4120.2-1, "Mandatory Terms and Conditions." In all cases, the right of appeal would be available. The case would be heard either by an administrative law judge or by the federal court. Also see response 3.

14. We would be happy to meet individually with any operator in the study area who has any questions about his or her allotment, at the convenience of the operator. Section 8 of the Public Rangeland Improvement Act of 1978 provides for consultation and coordination with landowners and public land users.

Most operators concerned about the proposed grazing management program, including range developments or stocking levels, were in touch

with us before the draft EIS was issued. Each affected operator was notified by phone or mail during the drafting of new or revised AMPs so that grazing management proposals could be cooperatively developed. These contacts are matters of public record and are summarized in memo form in each AMP file.

15. The proposed AMPs for each allotment are now in draft form. Final versions of these must be prepared during 1981. All proposed and existing AMPs may be modified if a better way of meeting resource objectives is found through this analysis, including the public input, before the final decisions are issued. Also see response 13.

16. There are two primary types of allotments within the study area, intensive management (AMP) and less intensive management (non-AMP). All AMP allotment boundaries (fenced and/or natural barriers) were field checked on the ground to determine their location. All land within the boundaries of each allotment; that is, public land, state, private, etc., was considered part of the grazing unit. Therefore, existing range condition and erosion condition were identified because proposed grazing management practices will affect such conditions on all land within the boundaries.

Non-AMP allotments have less intensive grazing management; that is, they will be licensed by grazing season and livestock kind and numbers, but no specific grazing system is required. These non-AMP allotments are generally characterized by small tracts of public land intermingled with state or private lands. Range and erosion condition estimates on non-AMPs are confined only to the public land.

17. There is no direct correlation between the Erosion Condition map and the Range Condition map in the EIS. Ecological range condition may be viewed as a measure of the present vegetation compared to its potential for that site. Range condition and erosion condition are not necessarily synonymous because, for example, a site may be subject to high natural or geologic erosion, yet support a climax vegetation composition. In such a case the erosion condition would be rated severe, while the range condition would be rated excellent. On the other hand, an area lacking erosion problems but infested with noxious weeds would be considered stable in erosion condition but poor in range condition.

18. A news release was mailed on April 7, 1980, to two wire services, nine daily newspapers, 27 weekly newspapers, 32 radio stations, and seven television stations throughout western Montana.

The release announced the availability of the draft EIS and gave a summary of the document and the times and locations for the public meetings to be held in Butte, Dillon, Lima, and Sheridan. The seven district grazing board members also received copies of the release. It was carried by nearly all the media outlets.

In addition, a notice in the March 26, 1980, *Federal Register* announced the availability of the draft EIS, and that notice also included a schedule of the public meetings. The public meeting schedule also was shown in the letter bound into the front of the draft EIS.

19. The proposed reductions are based primarily on forage inventories and on the allocation of forage to various resource needs. Present range condition was also taken into account. In some cases the management objectives for an area will be to maintain less than excellent range condition because other multiple use considerations are involved; for example, sagebrush is desirable on deer winter range, so the management objective would be to maintain only a fair or good range condition. Also see response 50.

20. Yes. In Appendix 1 the current permitted use can be compared to the initial stocking level column under "Proposed Management" to determine proposed changes in stocking level. Individual AMPs are also available for inspection at the Dillon Resource Area office. The AMP files include maps that more specifically delineate suitable and unsuitable areas, in addition to such information as range condition, vegetation type, and soils data.

21. The Mountain Foothills draft EIS was completed before the January 14, 1980, ratification of the Programmatic Memorandum of Agreement (PMOA) referred to by the Advisory Council on Historic Preservation. The stipulations of this agreement were addressed, however, in the draft EIS. The inventory report used to identify cultural properties is referenced on page 115 of the draft.

The stipulation defining the action to be taken by the BLM before beginning range development projects that involve land disturbance is found on page A-74, in Appendix 5. In order to bring the final EIS into agreement with the PMOA, an entry in the Errata section of this document omits the last sentence of the third paragraph, right column of draft EIS page A-74.

Consultation with the director of the Montana Historical Society, who is the Montana State Historic Preservation Officer, is documented on page 304 of the draft EIS. Requests for additional comments are included on pages 303 and 304.

Letter 1 in the Letters section of the final EIS contains the Montana State Historic Preservation Officer's comments.

22. Although the Big Hole National Battlefield, which is managed by the National Park Service, is publicly owned, it is not "public land" according to the Glossary in the draft EIS, which defines this term as "Any land . . . owned by the United States and maintained by the Secretary of the Interior through the Bureau of Land Management (BLM)." Direct livestock grazing AUM allocations or changes in allocations on the national battlefield lands are not encompassed under the authority of the Bureau of Land Management.

23. Table AP6-1 on page A-82 of the draft EIS identifies allotments subject to coordinated BLM-Forest Service grazing management. The designated lead agency will specify total authorized use, grazing system, and other terms and conditions in each of the 26 specific allotment management plans. Also see response 189.

24. The public has the right of access to all public lands; however, if access to public lands is across private land, permission from the private landowner must be obtained. The access and signing issues are addressed in the Dillon Management Framework Plan. Because of the scattered pattern of public lands in many areas, a substantial effort over a period of time will be required to resolve these issues.

25. There is no mention of the SEA withdrawal on page 30 or in Appendix 13. Apparently you are referring to Appendix 20, page A-256. The recommendation to revoke the SEA withdrawal was made by the area wildlife biologist at the MFP step 1 recommendation phase of the recently completed planning effort for the Dillon Resource Area. It was subsequently rejected by management in the MFP step 3 decision; therefore, it is not included in the proposed action.

The stated MFP step 3 decision does, however, call for reviewing the SEA withdrawal in accordance with section 204(1) of the Federal Land Policy and Management Act of 1976. Such a review is a requirement for all withdrawals. The merits of all withdrawals will be reviewed objectively, with full consideration of all concerned viewpoints. In the interim, we are seeking to update our cooperative agreement for the management of the area.

26. In the riparian habitat discussion referred to, impacts on visual resources was only one of the factors considered in the impact analysis. Our objective is to improve riparian habitats through intensive grazing management practices. We are currently achieving favorable results on most ri-

parian and upland sites within properly designed grazing treatments. Also see response 28.

27. We concur that developing new waters and setting up new pastures to redistribute livestock would have some adverse effects on wildlife. Water generally is not a limiting factor on cattle distribution in the study area, and new developments would not be likely to pose significant conflicts.

Most major conflicts between water developments and wildlife were resolved when the AMPs were drafted. The process of interdisciplinary resolution of conflicts was based on management guidance that new watering facilities and extension of existing facilities should not be established for livestock where significant new conflicts on vegetal resources would result. In some situations, water development could benefit wildlife by drawing livestock away from heavy use areas such as riparian habitat and wet meadows. Also see response 175.

28. Future adjustments in grazing programs will consider riparian condition and trend, as well as range condition, erosion condition, forage utilization, and other wildlife habitat objectives. Section 6740 of the *BLM Manual* describes the policy on wetlands and riparian habitats as follows: "to preserve and enhance the natural and beneficial values of wetland-riparian areas which may include constraining or excluding those uses that cause significant, long-term ecological damage." If grazing systems cannot be designed to maintain satisfactory riparian condition in the long term, exclusion of livestock with protective fencing may be the only recourse.

Long-term monitoring of riparian condition and trend is indeed proposed for all streams in the study area. More than 300 riparian surveys have already been completed on 220 miles of stream. These surveys will be duplicated periodically, as a means of evaluating riparian response to management. In addition, permanent photo plots are being established on each riparian survey reach as a supplement to trend evaluation.

29. In an effort to keep the draft EIS as brief and readable as possible, we did not include more detailed descriptions of the geology of the area. Also not included were details about other factors that in our judgment would not be directly affected by the proposed action or would not add to the meaningfulness of the document. Also see response 32.

The importance of minerals to the local and regional economies is discussed in the Dillon MFP, which was updated in 1979 before the draft EIS was developed. In all likelihood there would be no

need for mineral withdrawals, although it could become necessary to impose restrictions on mineral activities in specific areas such as long-term range study sites or range development locations.

30. The proposed Small Horn Canyon AMP (0722) has been revised since the EIS was drafted. It is true that this allotment comprises one pasture in a five-pasture grazing system developed with Soil Conservation Service assistance.

The acreage shown in the draft EIS for this allotment has been revised because of an error in locating the allotment boundary. The allotment includes 526 acres of BLM land and 234 acres of private land. The 1967 survey showed 520 BLM acres, not the 566 acres you indicated.

Some portions of the allotment that were originally designated unsuitable are in fact suitable. Deductions made because of steep topography (slopes in excess of 50 percent) leave 80 percent of the allotment suitable for livestock grazing. Field data also indicate that 99 percent of the BLM land is in a moderate erosion condition and 1 percent is in a slight erosion condition. On the basis of the suitability deduction, moderate erosion condition, and the range survey, the revised AUM tabulation indicates 66 usable AUMs for livestock on BLM land. This will result in a 25 percent reduction from the operator's current permitted use instead of the 51 percent initial reduction shown in the draft EIS.

31. See response 17.

32. There is evidence of past and present mining activity throughout the study area. The impacts involved (stream bank erosion, overland erosion, higher sediment yields, and possible heavy metal contamination), which are significant in localized areas, were addressed in the recently completed planning effort for the study area, as were impacts associated with other land uses such as off-road vehicles and recreation. However, the draft grazing EIS focuses on resources that could affect or be affected by the proposed grazing management program and the alternatives. Also see response 29.

33. Although this information has not been requested by any rancher, it is available in the Dillon Resource Area office and is a matter of public record. While AMPs were being developed, the respective operators were informed of the data collection efforts on their allotments. Subsequently, letters were sent to operators who would be affected by proposed reductions in grazing use.

34. The Mountain Foothills EIS has cost approximately \$320,000 to date. The estimated comple-

tion cost, including preparation of the final EIS, is \$350,000. Also see response 101.

35. Historically, livestock prices have changed dramatically every three to five years, whereas production costs have risen consistently. The average long-term cost/price relationship, however, has remained fairly constant in the livestock industry because of the forces of supply and demand. Livestock prices in 1978 were the average of prices for 1977, 1978, and 1979. Fuel and oil costs make up a total of about 7 percent of total cash production costs.

On the basis of the above information, we expect the cost/price relationship as shown in the draft EIS to remain fairly constant over the long term, with upward pressure on both cost and prices caused by economy-wide inflation.

It should also be pointed out that even though the cost figures used in the text are now several years old, the comparison of one alternative to another is valid, because relative differences between alternatives would remain constant. Actual costs at the time of implementation would of course be greater, because of inflation, than those displayed in the text. Also see response 102.

36. The Soil Conservation Service (SCS) provided valuable assistance and expertise in soil mapping and interpretation of soil characteristics for public lands within the study area. The SCS and the BLM worked cooperatively in developing ranch plans, and SCS ranch plans have been adopted in the development of BLM allotment management plans. Various range developments also have been discussed with SCS personnel. Their assistance is greatly appreciated.

37. If the following allotments were reduced, a 10 to 15 percent reduction in total ranch grazing requirements for seven operators would result: operator 1, 0468; operator 2, 0533, 0681; operator 3, 0170; operator 4, 0187; operator 5, 0485 (old 0466), 0465; operator 6, 0741, 0652; operator 7, 0126, 0127, 0119.

38. The BLM has not estimated what the overall economic effect would be if the Forest Service undertook a similar program. Also see responses 23 and 189.

39. See response 13.

40. Vernon M. Taylor, who currently is a supervisory range conservationist in the BLM's Miles City District, was a member of the EIS review team. Mr. Taylor has a master's degree in animal nutrition.

On the basis of a request by Mons Tiegen, representing the Montana Public Lands Council, John

Maki, Beaverhead County agent, reviewed the draft EIS. Mr. Maki has an undergraduate degree in animal science and a master's degree in animal physiology.

41. We tried to be as specific as our data and analysis would permit when making statements concerning economic impacts. However, it is very difficult to state positively how a rancher and his/her family might react to a change in grazing. For example, a rancher might seek outside employment, but this would depend upon the availability of a job, the individual's work skills and desires, and the extent to which he or she is underemployed on the ranch.

The draft EIS states in numerous places that the impact on several individual ranchers would be significant. We did state, however, that the overall impact on the regional economy would be insignificant. This observation is based on the information that even in a worst-case situation (total elimination of livestock grazing) the adverse direct and indirect economic impact on the region would be minus 0.6 percent.

The economic study is both "micro" and "macro." It is "micro" in the sense that it evaluates the economic impact of alternatives on the individual ranch firm through partial ranch budgeting; it is "macro" in the sense that it evaluates the economic impact of alternatives on the regional economy through the use of the Dynamic Regional Analysis Model (DYRAM).

We agree that including Butte in the economic region tends to distort the evaluation of the regional economic impact. However, it would not be proper to leave Butte out because it is one of the trade centers for ranchers using public land in the study area.

42. Range development projects needed to implement proposed AMPs are not allowed until the requirements of the National Environmental Policy Act are satisfied and appropriate AMPs are completed.

The fence identified for your proposed AMP can be built after completion of the final EIS and AMPs. We plan to stake out the exact fence location this summer and complete the site-specific environmental assessment needed for final project clearance. Construction of this fence is scheduled to begin in 1981. Any voluntary contributions for construction will be accepted at that time.

43. With the passage of the Federal Land Policy and Management Act of 1976, the Bureau of Land Management has been given a mandate to man-

age the public lands on the basis of multiple use and sustained yield. The multiple use values specified in the act are recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific, and historical values. Obviously, multiple use management cannot maximize all resources.

Tradeoffs are inevitable, as increased emphasis on one resource will require a corresponding reduction in emphasis on another. The views of all concerned individuals will be carefully considered in development of the final proposal. No allotment management plan will be implemented without close coordination with the affected livestock operators.

44. The proposed action includes the use of 2-4-D to remove the sagebrush overstory on portions of two allotments, with the total treatment affecting approximately 1,800 acres. The proposals for use of 2-4-D will not be finalized with completion of this document. The use of herbicides, like all proposed vegetation manipulation projects, will be reviewed by BLM specialists, the Montana Department of Fish, Wildlife, and Parks (MDFW&P), and other concerned agencies and individuals. A memorandum of understanding between the BLM and the MDFW&P requires a review by the MDFW&P with two years' review time before any proposed implementation. A site-specific environmental analysis will be prepared on each proposal following the review.

Any proposals that are still being considered after the review will be forwarded to the Federal Working Group on Pesticides in Washington, D.C., for further analysis, along with additional assessments. Final approval or rejection of the proposal will be made at that time.

45. The Belmont allotment (0469) is accessible by roads or trails from the southeast, south, and northwest. The closed county road to which you apparently are referring passes outside and along the east side of the Belmont allotment, in which the sagebrush spray project is proposed.

46. See response 44.

47. While livestock grazing is not solely responsible for the deterioration of the rangelands, past grazing practices are primarily responsible for the present rangeland condition and trend. It is recognized that other uses of the rangeland have indeed contributed to the present deteriorated range condition on certain areas.

48. While short-term livestock use reductions are proposed, the livestock industry in the study area will benefit from the forage increases projected for the long term. More intensive manage-

ment, along with increased livestock forage, will provide a more stable livestock base in the future. Also see response 43.

49. It is recognized that the McCartney Mountain area covers a broad spectrum of vegetation types, elevation changes, and climatic variances. The range survey that was conducted on the McCartney Mountain area was done by a team from Montana State University. We recognize that this survey was not as detailed as our subsequent surveys. Areas were broadly typed rather than subtyped. The survey was not conducted on a given transect line, but was an ocular estimate for each type. For a detailed discussion concerning the methodology, see Appendix 2 of the draft EIS.

We agree that trend should be based on the comparison of past surveys and studies to present surveys and studies, but in the absence of past data, in the interim we must also rely in part on professional judgment based on the available information. Ultimately, actual livestock use, range condition and trend, forage utilization, and climatic data will determine the actual carrying capacity on this allotment.

50. Ecological range condition is only one of several parameters used for describing the existing environment and attempting to predict the long-term impact of an action or alternative. It is not, of itself, used as a site-specific management objective. Improving range condition is a general long-term objective, but site-specific objectives are keyed to existing vegetative composition, what can realistically be expected on the basis of site potential, and specific management systems.

Climax or near-pristine vegetation is merely a benchmark that can be used to determine the ecological status or condition of the native vegetation. The amount of departure from the climax reference point is therefore indicative of successional community status (ecological condition). This is useful in estimating site capability or potential. In some cases management for a range condition somewhat less than excellent could be desirable.

A site-specific management goal may be to maximize forage production, and to do this the specific objective may be to maintain range condition at something less than climax or excellent condition (see page 49 of the draft). The site-specific objectives for the Little Divide AMP, given as an example on page 163 of the draft, illustrates that climax or excellent condition is not always the objective. Part of the example objective is to increase Sandberg bluegrass from 5 to 10 percent. Sandberg bluegrass is considered an "increaser" species, and a maximum of 5 percent is allowed on most

range sites in climax or excellent condition. In this case we would be managing for something less than excellent condition.

A number of AMPs in the study area have site-specific objectives to increase the composition of Idaho fescue, another "increaser" species. Here again, we would be managing for something less than excellent condition.

51. Total livestock forage production is based on the existing vegetation at the time of the range survey. The methodology is explained on page A-27 of the draft EIS. The estimated climax plant community was used to determine ecological range condition; it was not used as a factor in determining present forage production.

52. The interpretation of the figure on page 11 of the draft EIS needs to be clarified. Available livestock forage AUMs total 126,929. The amount allocated to livestock, 110,033 AUMs, actually amounts to 86 percent of the available livestock forage.

53. See response 50.

54. The role of private lands in affording habitat for wildlife is acknowledged as being highly significant. Where high quality forage can be provided on public lands, use by wildlife (particularly elk) can sometimes be reduced on adjoining private lands to the benefit of the private landowner. Also see response 95.

55. Because of the intermingling of public, state, and private lands within the study area, we have worked closely with ranchers, federal agencies such as the Forest Service, and the Montana State Lands Department to develop grazing systems that would best serve resource needs and all persons concerned.

The Taylor Grazing Act of June 28, 1934, as amended (43 USC 315, 315a-315b), provided for livestock grazing on the public lands. The passage of the Federal Land Policy and Management Act of 1976 (43 USC 1701 et seq.) and the Public Rangelands Improvement Act of 1978 (43 USC 1901) reaffirmed that domestic livestock grazing on the public lands is a bona fide and legitimate use.

56. Land exchanges were given detailed analysis in the recently completed planning effort for the Dillon Resource Area. Operators interested in specific land exchanges should come into the Dillon Resource Area office and discuss their concerns and proposals with the area manager. Also see response 29.

57. Throughout the draft EIS section on economic consequences to individual ranch operators, we made statements concerning the severity of economic impacts on these individuals. In our "Conclusions" section, on page 293, we say "In many cases the economic impact on individual ranchers would be extremely severe. The impacts under some alternatives would be severe enough to force many operators out of business, even though they would try to stay in business at almost any cost."

Also, as noted on page A-275, right column, third paragraph, improved range condition achieved through reductions could increase calf weights and calving percentages, and even reduce death losses. Specific data on these economic benefits were not available for the study area, so they were not included in the evaluation of impacts. Had they been included, the negative economic impact of grazing reductions as shown in the draft EIS would have been much less. In fact, under some circumstances, livestock producers would end up selling more total pounds of beef in the fall than they did before the grazing reduction was implemented. Also see response 102.

As for the impacts on the economy of all the rural West, it is probably true that income impacts could amount to millions of dollars. Here again, though, the impacts are relative. If the total income of all these rural Western communities is aggregated, it would indeed probably amount to billions of dollars, but the relative aggregated economic impacts to the communities would be likely to be similar to those shown for this study area.

It is true that the BLM did not evaluate the possible associated reductions on deeded land and other leased land, given a reduction on public lands. This is a conflict issue that varies considerably between individual ranch operations, depending on pasture arrangements, fences, and so on.

This is somewhat offset, though, by the way we evaluated reductions on public lands where they are surrounded by state and private lands. In these situations, we show a reduction in actual grazing use, and thus a reduction in real cash flow, when in reality the operators who have the public land surrounded would probably graze public lands at the same level.

Also, we used current permitted use in calculating grazing reductions when actual use was not known (see draft page 272, right column, paragraph 6). In the study area it is estimated that as much as 5 to 10 percent of permitted use is not actually being used. However, our analysis of the

impact on cash flow is based on this being a real grazing loss, since we don't have supporting data on actual use.

We believe that you may have misinterpreted the concept of "paper loss," as perhaps it was not explained very well in the draft EIS. In our analysis we were trying to make a distinction between the economic impact of actual grazing reductions on cash flow (net ranch cash income) and paper assets.

When we describe a "paper loss," we are referring to a real loss of paper value on the asset side of a balance sheet. You are quite correct in stating that a great deal of money is made and lost on paper. The loss in permit value due to a reduction in permitted use is a real "paper loss" regardless of whether the grazing is actually reduced. However, when there is no actual reduction in grazing use, the real economic impact is on paper and not on cash flow.

You state that reductions in paper assets could reduce cash flow because of the lost loan potential that could have been used to increase productivity and thus net ranch income. In discussions of this issue with lending organizations, it becomes apparent that there is not a very direct relationship between the reduced amount they would loan and the reduced permit value. In the first place, loans are made mostly on cash flow potential and repayment ability. It is true that permits are pledged as security, but in today's inflated ranch real estate market, the total amount of security that can be pledged is not the only limiting factor for a loan.

Secondly, lending organizations are becoming more sensitive to actual use and permitted use. They are making their appraisals and loans on how many livestock are actually being run. They are not inclined to give credit to suspended non-use that cannot be activated. Also see response 65.

58. There has been no premise in the draft EIS or in the methodology of riparian surveys that livestock grazing is the sole factor affecting riparian habitats. Because the objective of the draft document was to evaluate the impact of livestock grazing on public lands, riparian surveys were designed to focus primarily on resource conditions that may be affected by livestock grazing.

It is unrealistic to state that riparian vegetation is "prolific under extreme pressure." More than 300 riparian surveys have shown the exact opposite. Wherever repeated extreme or even moderate grazing pressure has occurred, especially during June through August, woody riparian species

such as willows are heavily hedged, reproduction of these species is suppressed or eliminated, canopy cover is deficient, and stream banks are trampled and eroding.

Riparian surveys have shown that where cattle use and big game use can be differentiated, impacts from big game are minor. The Charcoal Gulch area is a case in point; this area is not grazed by livestock, but it is part of a larger area that provides crucial winter-spring habitat for 800 to 900 deer, 600 to 700 elk, and an undertermined number of moose. Riparian condition in the area is very good, with only 18 percent of palatable woody species being heavily hedged (more than 50 percent utilization of second-year growth) and with an extremely stable stream bank. Continuous annual heavy use by livestock in the past in riparian habitat is generally the reason much of this type of habitat is currently in unsatisfactory condition.

Only within the past ten years has environmental awareness in the general public reached the level that people have begun to complain of poor habitat condition, some of which has existed for years. Also within the past decade, numerous legislative actions such as the National Environmental Policy Act have called attention to deteriorating environmental conditions that are caused not only by livestock but also by mining, logging, highway construction, agriculture, and simply by increasing population pressure. Certainly all of these factors have had significant effects on riparian and aquatic habitats, but in the majority of the riparian habitat surveys conducted in the study area, continuous livestock grazing has had the primary impact.

59. Grazing and wilderness are compatible uses of public lands; we do not anticipate unrealistic hardships being created for the permittee because of possible wilderness designations. Specific BLM policy for grazing in wilderness has not been formulated, but it is not anticipated that wilderness designation would affect stocking rates or have significant impacts on established AMPs, except perhaps on design and location of range developments. Management of livestock within wilderness would not vary substantially from that on nonwilderness allotments. Regulations pertaining to the use of motor vehicles would be the primary difference.

Natural fire is compatible with wilderness. According to current policy, prescribed burning may be done where it is required to maintain the natural condition of fire-dependent ecosystems. Therefore, prescribed fires are allowed in wilder-

ness, but careful management is needed to assure an appearance of naturalness.

60. Six alternative grazing management plans were discussed in the draft EIS, and only one, Alternative C, emphasized wildlife. This alternative is appropriate under the legal directions of the National Environmental Policy Act, which requires that all feasible alternatives be considered in the formulation of a management action. In addition, the BLM is bound by the Federal Land Policy and Management Act to consider all aspects of multiple use management, including wildlife.

It is recognized that private lands provide vital habitat for most wildlife populations (see response 95), and we agree that hunting has significant impacts on the species. However, the severity of these impacts depends in part on the suitability of the habitat to meet species needs. Obviously, if the habitat does not provide all requirements when they are needed, animal populations are less likely to survive the stresses of hunting, weather, or any other disturbance. The draft grazing EIS focuses on resources that could affect or be affected by the proposed grazing management program and the alternatives; therefore, because of space limitations, we did not include detailed discussions of the impacts of activities such as hunting.

We agree that managing for climax vegetation is not always in the best interests of wildlife. Also see response 50.

61. We agree. Uncontrolled ORV use of public lands could have severe detrimental effects, particularly on wildlife and fragile soils. This problem has high priority in BLM planning and was the subject of detailed assessment in the recently completed multiple use planning effort for the study area. However, one of the intentions of the impact analysis in the draft document was to evaluate the cumulative impact of fences on ORV use in the study area.

62. See response 49.

63. As proposed, range developments would be implemented as outlined in Appendix 14. Once these initial developments were completed and operational, the needs of livestock and of other resources such as wildlife would be the basis for determining where further developments would be implemented.

64. Soils have limited variability over the allotment. The poorest soil has a site potential of 850 to 1,700 pounds of vegetation per acre. This soil is found in areas throughout the entire allotment. The most productive soil, which is found in two

small areas adjacent to allotment 0314, has a site potential of 2,500 pounds of vegetation per acre. The remainder of the allotment has site potentials ranging from 1,000 to 1,600 pounds of vegetation per acre.

Approximately half of the allotment falls into the fair range condition class, and the remainder falls into the good range condition class. These two condition types are fairly evenly distributed between the north and south portions of the allotment.

The southern portion of the allotment varies from 5.1 acres per AUM to 20.8 acres per AUM, depending on the vegetative type. The northern portion of the allotment varies from 3.4 acres per AUM to 83.3 acres per AUM. It should be noted that the areas that require greater acreage per AUM are predominantly timber types or extremely dense sagebrush types, or are located on steep ridges. Also see response 49.

65. If we understand your statement, you are saying that more than a "paper loss" was incurred because of potential forgone and therefore net income forgone. Your statement is correct to the extent that you would realize increased net income from development of the range potential.

In the draft EIS we state that where a reduction is proposed in nonuse, this represents a "paper loss," which in this context refers to the short-term economic impact of initial grazing reductions, not to loss of potential income. The long-term economic impact of development of range potential would be reflected in increased net ranch income and increased permit value. Also see responses 49, 55, and 63.

66. The decision maker will review the consequences of each alternative on an allotment-by-allotment basis in developing the final decision for the grazing program. In addition to this, watershed objectives will be defined for each AMP. Watershed and rangeland conditions will be monitored, trends will be established, and necessary adjustments will be made in the future to accomplish the objectives. Also see responses 12 and 43.

67. All additional watershed and wildlife deductions, as outlined in Alternative C, were made from the initial usable livestock forage AUM base proposed in Alternative A (refer to Appendix 1 for initial AUMs).

Appendix 12 displays the allocations for Alternative C. For example, Pine Creek AMP (0001) has an initial stocking level of 405 usable AUMs. In Alternative C, wildlife specialists identified a need for 75 additional AUMs, so the Pine Creek AMP

stocking level in Alternative C was reduced to 330 AUMs. In all cases for this alternative, where there was a need for additional watershed/wildlife deductions, those deductions were taken off the initial stocking level of usable livestock AUMs. Also note that the season of use in Alternative C for Pine Creek AMP is two weeks later than that proposed in Alternative A.

68. We agree that Alternative C is one of the best alternatives for preventing soil loss. Also see responses 12 and 43.

69. Forage is available to wildlife in areas that livestock use. Rest pastures, deferred use pastures, and areas surveyed as unsuitable for livestock grazing (steep slopes) provide a substantial quantity of forage and cover for wildlife throughout the study area. For example, the Jerry Creek allotment (0318) is a major winter range for 700 to 900 deer and 600 to 650 elk. The allotment is divided into two pastures, only one of which is grazed each year. This leaves approximately 6,000 acres of good and excellent winter range ungrazed and available for wildlife each year. Regrowth following early season grazing also accounts for additional AUMs.

Grazing plans also have been coordinated on allotments that share a common elk winter range, so that rest pastures for either or both allotments would provide elk forage needs each year (allotments 0030 and 0031). Obviously, there are cases where livestock use has taken precedence over wildlife needs, but there are few instances anywhere in the study area where livestock have totally removed forage so that none is available for wildlife.

70. See response 27.

71. See response 27.

72. As indicated on page A-275 of the draft EIS, we recognize that increased quality of forage, watering facilities, etc., may result in heavier calves, an increase in calf crop, and possibly even a reduction in death losses. Not enough information on the study area is currently available to quantify the extent of these impacts on ranch income.

Holding soil in place has both onsite and offsite economic impacts. The onsite economic impacts are largely captured in the increased forage production, which is included in the evaluation of impact on ranch income. It is acknowledged that reduction of sediment yield offsite will have an economic impact, but the information available is insufficient to quantify the extent of these impacts.

The economic impact of recreation/wildlife development has been evaluated and is included in this final EIS in revised pages 25, 34, 35, 36, 127, 130, 296, and 299.

73. We agree with your concerns about aggregating data. This practice does tend to cloud the information on a particular allotment or area, but space limitations of the draft document made it impossible to display site-specific data for the entire study area in tables or on the 1/4 inch per mile scale maps in the EIS. However, site-specific resource information, compiled on an allotment basis, is a matter of public record and is available for public review at the Dillon Resource Area Office.

74. Spring use does not necessarily lead to rangeland deterioration provided it is not on an annual basis, and provided that adequate rest or deferment follows spring grazing. The major opportunity to improve these spring ranges is through management prescribed in AMPs developed with the cooperation of the respective operators. The proposed action has reduced spring grazing on 186 AMP allotments by 100 months of grazing, compared to the current authorized grazing seasons (see page 258 of the draft EIS, second paragraph in the right column).

75. See response 44.

76. Plowing and reseeding following chemical brush control has not been proposed. We believe the present grass understory will respond sufficiently after spraying to achieve the desired results.

77. Your recommendation for burning in mosaic patterns is consistent with our prescribed burn program.

78. We agree that stocking level adjustments should be made on the basis of the amount of grazing an area has shown it can actually sustain. We propose to stock allotments initially on the basis of the most reliable data available. At the present time the most reliable information on the non-AMP allotments is from the ocular reconnaissance range survey. However, adjustments may be made to the survey stocking level after actual use records and utilization studies have been analyzed through several grazing system cycles.

79. The protection or enhancement of crucial wildlife areas can be realized through direct forage allocation in those areas through the planning process, and it can be maintained or improved through grazing management. Fence construction in wildlife areas will be designed to

allow freedom of wildlife movement, thereby reducing the potential for entanglement. These fences will be constructed according to specifications outlined in Appendix 5, page A-72 of the draft EIS.

80. A benefit/cost analysis has been done on all AMP allotments to ensure that the expenditure of public funds is cost effective. A variable measured by this analysis is the improvement of multiple resource values such as wildlife habitat improvement and watershed protection.

81. On page 93 of the draft, paragraph 4, we noted that "in more than 300 riparian surveys completed to date, big game use has not been shown to be the principal cause of unsatisfactory riparian condition; however, the potential for damage of riparian vegetation by excessive game numbers is acknowledged."

Big game numbers have generally been maintained within the capacities of wintering habitats through prescribed harvests administered by the Montana Department of Fish, Wildlife, and Parks. Exceptions to this have been periodic mule deer buildups; however, winter use of riparian habitats by deer is very uncommon in the "foothills area." On page 93 we also referred to riparian analyses we completed on two areas that receive intensive big game winter use annually and no livestock use. On both areas riparian habitats rated high in the "good" category. This was the basis for our conclusions regarding low impacts of big game on riparian habitats in Alternatives C and F. Files documenting these surveys are available for review in the Dillon Resource Area office.

82. Analyzing riparian condition on 450 or more miles of stream within three or four summers is a formidable task. When we began this analysis, we solicited ideas from authorities in stream and fisheries management and found that riparian evaluation was a new undertaking. Our biologists thus were forced to seek a common denominator that was indicative of riparian habitat condition. Considerable effort was devoted to trial and error approaches, with time and personnel constraints being considerations.

After completing about 300 riparian surveys employing evaluations of the vigor of palatable deciduous woody species and of channel conditions, we are confident that the method provides a valid general assessment of riparian habitat condition and vigor *in the foothills habitat types*. Statistical analyses indicated a valid correlation between woody riparian condition and observed bank erosion (see figure 2-1, page 91). This strongly suggests the methodology is valid. In addition, we completed statistical analyses of sampling size

variability on a good condition and a poor condition stream. A "t" test analysis showed no significant differences at the 0.001 level between randomly selected samples of 25 and 400 plants on a given reach; that is, a sample of 25 plants will reflect, with 99 percent confidence, the same findings as a sample of 400 plants.

Predicting riparian habitat condition responses for the alternatives was not an exacting science, nor was it pure conjecture. Experience with 22 existing AMPs that have riparian habitat has provided us with insight regarding expected responses. This was discussed on pages 228 and 230 of the draft. Appendix 21 also describes nine of those systems in detail to characterize riparian responses to various grazing systems.

A pertinent point to be made is the necessity for the BLM to act promptly in order to attain the best possible management on riparian habitats. It is true that we must monitor the response of riparian areas to implemented grazing management, and we plan to do so. However, we cannot justify taking no action to benefit riparian habitat until one to three grazing system cycles have been completed, which may be up to 15 years. We must proceed on the basis of the best possible information and base any necessary modification of future management direction either on better technical information or on riparian responses.

83. The reference to Appendix 18 on page 227 in the draft is in error. An entry in the Errata section, under page 227, changes the reference to Appendix 7.

The AMPs with riparian habitat have been functioning for one to three grazing cycles and have provided valuable benchmarks for assessment of impacts. This baseline information was incorporated in the draft EIS (see Appendix 21, which is referenced in the riparian discussion, page 230).

84. Dyce Creek (intensive management) and Rape Creek (nonintensive management) were not the only allotments used for models of riparian assessment and criteria. Also see response 82. In addition to streams on the 22 allotments discussed in Appendix 21, eight additional streams were used for developing rating criteria, and these are described in Appendix 7.

Dyce Creek and Rape Creek do not show significantly different fluvial landforms to the degree that riparian habitat associations would differ greatly. The reaches portrayed in figure 3-13 are representative of mature streams of comparable size and gradient.

85. Bank erosion, wildlife versus livestock use, and potential riparian canopy cover parameters are quantified in each riparian survey. Heavily hedged plants are recorded under livestock, big game, or beaver wherever the distinction can be made. In addition, droppings of game species and livestock are quantified to aid in the assessments of relative use intensities.

We agree that exclosures on riparian habitats have merit for benchmark comparisons. We constructed two this fiscal year in the Matador allotment (0012). In addition, we have protected (fenced) study sites on Sheep Creek and the East Fork of Blacktail Creek, as well as several streams that receive no authorized livestock use. These were used in developing the rating criteria described in Appendix 7. Also see response 58.

86. Objectives for maintenance of riparian habitat were included in the development of AMPs. The type, season, and duration of grazing are far more significant to riparian condition than is the degree of use (see response 28). "Heavy use" in one year of three can be tolerated; however, two or more consecutive heavy use treatments cannot. For this reason we have emphasized types of grazing systems designed to minimize heavy use in two out of three years. See the discussion of riparian impacts on pages 227 through 235 in the draft EIS.

87. Present livestock grazing practices on riparian habitats are influencing riparian vegetative vigor significantly more than are fluvial landforms; thus, livestock grazing was emphasized accordingly. Indisputably, the ultimate potential structure on all riparian habitats is unknown. Evaluations of known protected sites and other near-pristine sites were discussed in Appendix 7 and in responses 84 and 85.

The ultimate potential may be more of academic interest than of practical value on some streams, because of the influences of livestock. An empirical approach was taken, with reasonably attainable goals based on analyses of streams that have riparian habitat conditions acceptable for associated wildlife species. Goals for riparian habitats can doubtless be refined further in the future as more grazing systems are implemented and subsequently evaluated.

88. As stated in the draft EIS in Appendix 2, page A-28: "It is recognized that species composition as determined by ocular reconnaissance (basal area) is not directly related to species composition per the ecological site method (weight). Adjusting ocular reconnaissance composition by the use of relative yield factors [with the "Stipa

equivalent method" developed in Canada] was considered, but ruled out because of the different kinds of vegetation that occur in the Canadian prairies versus the Mountain Foothills area of southwestern Montana. Nonetheless, we consider these estimates to be conservative and valid on a relative basis."

89. The method for projecting future range condition for Alternative A, the proposed action, is described on pages 166 to 170 of the draft EIS. Also see response 9.

90. We agree that combining condition classes would create a wide variability upon which to predict changes, but classes were not combined in this analysis. Condition classes were combined only for purposes of visual display on the Range Condition map, which shows all allotments with 0 to 25, 26 to 50, 51 to 75, and 76 to 100 percent of their total public land acreage in good and/or excellent range condition. This explanation appears on page 49 of the draft, but was inadvertently left off the Range Condition map legend. An entry in the Errata section of this document, under "Range Condition map," corrects this error.

In table 3-14 on page 167, the potential is given only for a vegetation type to improve by one condition class. For example, 75 percent of the fair condition grassland acres would be expected to improve by one class to good condition. This does not mean we estimate the potential for change to be 75 percent of fair to good condition ranges.

91. Range condition projections for Alternative B, Limited Action, have been reassessed, and changes have been made in table 3-18 and in corresponding text references (see the Errata section of this document and revised page 173).

As you indicate, Alternative B is identical to Alternative A, the proposed action, for 26 existing AMPs and 22 revised AMPs (14,000 acres), a total of 45 percent of the public land acreage in the study area. Range condition projections for these affected allotments were tabulated from data given for Alternative A in Appendix 3.

Livestock use would be reduced on the remaining 55 percent of public land under Alternative A, as compared to the use shown for Alternative E, No Action. It is assumed that acreage shown as decreasing by a range condition class under Alternative E (24,000 acres) would remain in the existing range condition under Alternative B. A total of 38,000 acres would differ in this respect between Alternatives B and E.

As opposed to an increase of 14 percent in excellent and good condition range for Alternative A and a decrease of excellent and good condition range (minus 4 percent) for Alternative E, recalculations shown in the revised table 3-18 (revised page 173) reveal that there would be an overall increase (plus 4 percent) in excellent and good condition range under Alternative B.

92. See responses 12 and 43.

93. See response 43.

94. As you point out, the opportunity to replace BLM grazing with alternative forage is very limited, and it would be more costly. Discussions with ranchers revealed that if they could not find alternative forage, they would be forced to purchase hay and feed longer or reduce herd size or both, at least in the short term. They indicated that in the long term there would be some possibility of increasing production on private grazing land, converting hay land to pasture, and increasing hay production through fertilization, irrigation, or improved irrigation practices.

As you point out, and as was indicated in page 273 of the draft EIS, these alternatives would increase costs to ranchers because they are substituting low-cost BLM grazing (\$1.51 in 1978) for higher cost commercial forage (\$8.10 per AUM) or hay purchase (equivalent of \$15 per AUM). It should be recognized, however, that some of the reductions would be temporary and the grazing would be restored and possibly even increased over present levels in the long term. Under the proposed action, the level of AUMs in the study area is projected to be increased in the long term by about 13 percent over the present level.

Under existing regulations, a rancher can be given up to three years to phase in reductions (see response 3). This would give the operators more time to make adjustments in their ranch operations and lessen the short-term economic impact. In addition, the BLM is working with the Department of Agriculture on programs to assist affected ranchers in such areas as development of their private lands. Also see response 13.

95. We concur with your assessment that livestock grazing and wildlife habitat needs are compatible in many cases; however, there are situations where habitat conflicts arise primarily because of intensities of livestock use or season of use.

In the draft EIS we have avoided generalized statements that would lead readers to believe that there are standard approaches that could resolve all conflicts. For example, we cannot generalize that good grazing management will be good wild-

life management in all cases. Grazing management that meets the phenological growth requirements of range plants may not leave adequate forage or cover for wildlife.

High-density livestock grazing on elk summer habitat is a common conflict because of the social intolerance exhibited by elk. A decision must then be made to authorize livestock use at the critical period and displace the elk, remove livestock, or defer livestock use to provide for elk needs. There are generally no easy solutions that will completely satisfy all interests.

We have acknowledged the role of private lands in wildlife welfare in tables 2-13, 2-15, 2-16, and 2-17. Also see response 54. We are aware of instances where big game depredations on private lands have been accentuated by overuse or poor range condition on public lands. In these cases, it is possible to reduce the use of private lands by big game (particularly elk) by improving the quantity and quality of forage on adjoining public lands through better management and forage allocations. The Tobacco Root Range is an example. The Montana Department of Fish, Wildlife, and Parks has repeatedly demonstrated a displacement of major elk herds to game range areas by supplying winter forage in greater quantities. Many cases have been documented of definite shifts in elk distribution, which reduced use on private lands.

96. As stated in the Summary portion of the draft EIS under Alternative E (No Action), consideration of this alternative is required by the Council on Environmental Quality, and it was included in the EIS primarily for comparison purposes. Alternative A has been offered as the proposed action to best meet the needs of all resources while at the same time accommodating the livestock industry.

97. Our analysis shows that the direct and indirect effect of Alternative F, Elimination of Livestock Grazing from Public Lands, would, in a "worst-case" situation, result in a reduction of regional income by 0.6 percent. We do not judge this to be a severe effect on the economy of the region. Also see response 41.

98. Livestock use levels that were depicted and analyzed in the draft EIS as part of the proposed action and the alternatives were primarily developed in the recently completed planning effort. This multiple use plan considered existing levels of livestock use, the range survey, wildlife/watershed/livestock requirements and opportunities, range suitability determinations, range condition, refined delineations of existing allotment boundaries, and the splitting or consolidation of allotments. The proposal for management direction

was made on the basis of multiple use tradeoffs regarding the levels of livestock use that were to be analyzed in the draft EIS. Also see responses 10, 12, and 43.

99. See response 43.

100. Every effort will be made to assure the cost effectiveness of rangeland treatments. We do not agree, however, that spraying the high potential grass areas and leaving the unsuitable areas in sagebrush will leave a good balance for wildlife.

Many sagebrush areas with high potential for grass production currently provide needed cover for wildlife. Treatment of such areas may result in the elimination of important wildlife habitat, which cannot be compensated for on adjacent areas unsuitable for treatment. This is particularly true in the study area, where the availability and quality of winter range is considered the limiting factor for several game species, and where much winter range is located on state and private lands.

101. The actual breakdown of approximate completion costs is as follows:

Resource inventories	\$850,000
Dillon MFP	200,000
Mountain Foothills EIS	350,000
Total	<u>\$1,400,000</u>

Resource inventories were conducted by the BLM, the University of Montana, and Montana State University. The inventories and planning effort were accelerated to meet a court-ordered 1980 deadline for the EIS. Even if the grazing EIS had not been required, resource inventories and multiple use resource planning were needed and would have been conducted, although undoubtedly this would not have been done in such a short time.

The EIS process provides for analysis of the proposed grazing management program developed in the planning effort for the Dillon Resource Area. The draft EIS identifies impacts on the environment, addresses possible mitigating measures to reduce adverse impacts, and analyzes alternatives to the proposal. Public input, which is a part of the analysis and data gathering process, is necessary to adequately inform BLM managers of public objectives, goals, and desires regarding the proposed action.

Implementation of the proposed Mountain Foothills Grazing Management Program will cost an additional \$1,525,000 for range developments. This estimate is based on 1978 costs. Developments will be completed between 1981 and 1984.

102. We agree that 1978 receipts and operating expenses do not represent the 1980 situation in terms of the magnitude of the dollar figures; however, this does not invalidate our conclusions regarding the anticipated impacts on net ranch income from the proposed action as compared with the other alternatives.

We project that the relative percentage reduction or increase in net ranch income will remain fairly constant in the future. This is based on the assumption that the relationship between prices and costs will remain constant in the long term. That assumption appears valid on the basis of historical data. Although there have been dramatic fluctuations every three to five years in livestock prices, over the long term the cost/price relationship has remained fairly constant. This is due to the forces of supply and demand and the extreme competitiveness of the livestock industry. The cost/price relationship for 1978 represents a three-year average for livestock prices. Prices for 1978 are the average for 1977, 1978, and 1979. In 1977 average calf prices were 40 cents per pound, and in 1979 average calf prices were 90 cents per pound. Also see response 35.

103. We agree that range productivity can fluctuate from year to year. The range survey for the public lands in your non-AMP allotment was completed in the summer of 1978. An on-the-ground field examination was conducted to delineate vegetation types, plant composition, and density.

In rough or broken terrain such as that found in your allotment, it is often more efficient to determine vegetation type or plant community boundaries by using aerial photographs. Verification of vegetation boundaries can be done from a vehicle in many instances, but in any case it is done in the interest of saving time and money without sacrificing survey reliability.

104. Impacts to soils and watershed from mining, timbering, wildlife, off-road vehicles, recreation, and other land uses are recognized, and quantification of their magnitude was assessed in the recently completed planning effort for public lands in the study area, and in the draft EIS. While the scope of this EIS is restricted primarily to analyses of impacts due to livestock grazing, every attempt was made to quantify these impacts and those due to other activities within the context of the existing situation. For example, the effect of wildlife on erosion in the area is addressed in chapter 3 of the draft EIS under "Erosion" (pages 136-148). Natural, or geologic, erosion is recognized and discussed in chapter 2 under "Erosion" (page 43), as are erosion agents.

105. The BLM is making every effort to remove refuse from the public lands within the limits of personnel and funding. This problem was addressed in the recently completed planning effort, but it was not discussed in the draft EIS, as this is primarily an analysis of impacts based on livestock grazing management.

106. See response 11.

107. The listing on the stream in question is in error. Fishing opportunities near the mouth of Granite Creek should be shown as average. This category also includes below average opportunities, which is actually the case in this instance. An entry in the Errata section of this document, under "Quality of Recreation map," makes this correction.

108. Fees are assessed for the use of public lands for commercial purposes such as livestock grazing, timber harvesting, and minerals leasing and mining. Members of the public at large who use the public lands under BLM management for recreational uses do not pay special fees. Instead, a portion of federal income tax revenues is used to pay for the administration of public lands.

Portions of federal receipts from mineral leases, grazing fees, and sale of lands and materials generated from the public lands under BLM management are made annually to the Montana state treasury. Payments in lieu of taxes are made directly to the counties for public lands within their boundaries. For the four counties in the study area, these in-lieu payments exceed what would be paid in taxes should these same lands be under private ownership.

Mineral payments amounting to 37.5 percent of BLM receipts were made to the states beginning in 1920, with passage of the Mineral Leasing Act. The share the states received was increased to 50 percent in 1976 under provisions of the Federal Land Policy and Management Act. Ever since 1934, with the passage of the Taylor Grazing Act, states have received 12.5 percent of the grazing fees collected from public lands inside grazing districts, under provisions of section 3 of the act, and a 50 percent share of grazing fees collected from public lands outside the organized grazing districts, as provided for in section 15 of the act. Annual payments in lieu of taxes to the respective counties are provided for under section 1 of Public Law 94-565, of October 20, 1976.

The following table summarizes annual revenues from public lands that were disbursed to the state and four counties within the Dillon Resource Area during this past fiscal year (1979).

109. See responses 12, 43, 94, 96, and 97.

110. See response 4.

111. Sediment yield from riparian zone degradation would continue to decline fishery values further; however, sediment is flushed from the stream each year during high flows. These two actions would act against each other from a fisheries viewpoint and would be highly dependent upon the watershed condition and on the precipitation for a given year. The tradeoffs between alternatives on a stream-by-stream basis are given on page A-28 of Appendix 10 in the draft EIS.

112. See responses 28 and 86.

113. See responses 12, 43, and 44.

114. Elk summer-fall habitat in the Ruby Mountains, Medicine Lodge-Horse Prairie, and Blacktail Ridge areas is degraded by heavy livestock use and the lack of rested pastures. Livestock reductions have been proposed for operations in these areas, but further major livestock reductions would be necessary to totally meet elk needs. These additional cuts would cause serious economic impacts, and further expense would be encountered for fencing and maintenance to provide rest pastures in each allotment. Also see responses 43, 175, and 202.

115. Turnout dates on the Long Creek (0152) and Ruby Dell (0172) allotments, which encompass the majority of the north Centennial Valley calving area, would be deferred until July 8 and June 25, respectively. The date given for Long Creek in the draft EIS is in error. An entry in the Errata section of this document, under page A-5, changes the date to July 8.

In the Upper Granite Creek area, the Mill Gulch (0475) and Dry Lakes (0526) allotments provide the majority of elk calving habitat on public land. The proposed turnout date for these two allotments is June 1. Management proposed to authorize June 1 because there are only small amounts of federal range within the allotments (Mill Gulch, 23 percent; Dry Lakes, 34 percent). See also responses 12, 43, 44, and 117.

116. See responses 12, 43, and 44.

117. In addition to other factors, many of the allotments in the Tobacco Root Range contain a small percentage of federal rangeland. Therefore, options for management of BLM land along with private land are restricted by the amount of private land involved, as private land is not under BLM control. To remove public lands from those allotments or fence them to provide forage annually to elk would generally be impractical, as well as having economic impacts on the livestock op-

ALLOCATION OF BLM RECEIPTS TO MONTANA STATE TREASURER
AND FOUR COUNTIES IN THE DILLON RESOURCE AREA

Receiver of Public Lands Funds	Payments to State and Counties					Sale of Lands and Mineralse
	Mineral Leasing ^a		Public Land Grazing		Payments in Lieu of Taxes ^d	
	4/1/79 to 9/30/79	10/1/79 to 3/31/80	Section 3, Taylor Grazing Act ^b	Section 15, Taylor Grazing Act ^c		
Beaverhead County	\$ 132,282.25	\$ 208,502.34		\$ 27,180.76	\$ 272,419	
Madison County	20,116.00	61,722.25		18,422.70	256,297	
Silver Bow County	1,781.00	2,196.50		5,673.69	282,322	
Deer Lodge County	<u>321.00</u>	<u>2,945.50</u>		<u>276.42</u>	<u>186,257</u>	
Total	\$3,733,207.40	\$4,500,755.40	\$161,627.89	\$141,544.60	\$10,794,869	\$14,652.65

SOURCE: BLM, 1980.

- a. The figures given constitute a 50% share of receipts collected. These funds are paid directly to the Montana State Treasury.
- b. Receipts indicated are the total collected for the section 3, Taylor Grazing Act, lands within the entire state. These funds are paid directly to the Montana State Treasury. Distribution provides for 50% of the total fee to range improvement, 12.5% of the total fee to the state treasury, and 37.5% to the United States Treasury.
- c. These funds constitute a 50% share of section 15, Taylor Grazing Act, public land grazing fees collected within the respective counties. Payments are made directly to the Montana State Treasury.
- d. Section 1 of Public Law 94-565 provides for annual payments in lieu of taxes directly to the respective counties.
- e. These funds constitute 5% of the net proceeds derived from sale of public lands and material within the entire state.

erators. Many of the grazing systems proposed are beneficial to elk and include rest treatments that would apply to both public and private lands. Also see responses 12, 43, and 44.

118. See responses 12, 43, and 44.

119. See response 44.

120. See response 44.

121. Four antelope passes to allow antelope access into the Rock Creek allotment were installed in the spring of 1976; however, no antelope use occurred, and the passes were removed in 1979 after several horses were injured while attempting to cross them.

On domestic sheep allotments such as this one, BLM policy, as specified in the *BLM Manual*, section 1737, provides only marginal relief for antelope barrier fences by providing a 10-inch bottom wire (see response 7). In most cases, a 10-inch space is inadequate for passage of adult antelope; consequently, this tradeoff would remain as an unmitigated impact.

After reviewing the public comments, management is reconsidering the need to modify the fence on this allotment to allow antelope passage. The type of fence under consideration would have barbed wire panels approximately 100 feet long with a 16-inch bottom wire built in fence corners. The existing net wire would be extended over these panels only when sheep were present, and would be rolled back, exposing the barbed wire panels, during the rest of the year.

122. No deductions were made in Alternative A for bighorn sheep since significant amounts of forage are available through range suitability deductions. Under Alternative C, 150 additional AUMs in allotments 0303 and 0308 were deducted for bighorn, primarily so that forage that is already available would be reserved. Therefore, management of bighorn habitat would be much the same for Alternatives A and C.

123. Riparian habitat on the East Fork of Blacktail Creek is currently in good condition and is expected to improve to excellent condition under Alternative A. The only present limiting factor upon the condition of riparian and moose habitat has been a livestock trespass problem, which will be resolved by fencing in 1980.

124. See response 44.

125. See responses 12 and 43.

126. A waterfowl habitat management plan (HMP) is being prepared for Lima Reservoir and the Red Rock River upstream. As part of this plan, several studies would be set up to monitor residu-

al cover response and waterfowl production. Objectives to maintain the molting goose population are also specifically addressed in the HMP.

127. On allotment 0462, which contains 0.75 mile of the Big Hole River, a decision was made in the planning process not to exclude grazing from the river, since the lessee has a grazing system on this mixed public-private land area. The system will be closely monitored to evaluate the trend in riparian condition. Allotment 0457 was included in table 3-30 in error, since a decision was made to fence this Madison River tract and implement management with riparian improvement goals (see response 222). An entry in the Errata section, under page 233, removes this allotment from the table. On allotment 0452, the present riparian condition is satisfactory, although admittedly below potential. Protective fencing is not proposed at the present time because the estimated cost would be \$7,000 to \$8,000.

As noted, Alternative C recommended a reduction in stocking rate on the Nicholia allotment (0699). Also see responses 28 and 43.

128. See responses 12, 28, and 43.

129. The tradeoffs, shown on projected fish habitat conditions, between alternatives on a site-specific, stream-by-stream basis, are found in Appendix 10, page A-128, of the draft EIS.

130. See response 91.

131. Permanent range trend plots are established in key areas within allotments with existing AMPs to document changes in ground cover, plant vigor, and species composition. A variety of monitoring techniques has been employed, such as the standard 3 foot x 3 foot frame, the Daubenmire canopy cover method, photo stations, and aerial photos using an adaptation of the techniques of Meyer (1976) and Taylor (1975). Trend data displayed in Appendix 3 for existing and revised AMPs were derived from these studies.

In the absence of trend plot data, apparent trend was estimated for allotments with proposed AMPs and for non-AMP allotments and unallotted areas. The apparent trend was determined by on-the-ground inspection and professional judgment based on observations of increaser and decreaser species, plant vigor, relative plant composition, vegetation associations, historical records, and general hydrologic conditions, as discussed on page 49 of the draft EIS. In Appendix 3, page A-32, except for the 48 existing AMPs for which current trend data were available, the trend column headings have been changed by

entries in the Errata section to read "apparent trend."

132. Waste and conifer were not included in range condition projections, but some of these areas in the apparent trend estimates were inadvertently included in trend extrapolations. They should not have been.

Permanent range plots will be established in all AMP allotments for which permanent trend plot information is not now available. Monitoring of plots will provide for more precise documentation of actual range trend.

133. Management of riparian habitat was included in resource objectives developed for each AMP in the study area. Whereas we realize that livestock also use riparian areas, emphasis was placed on riparian habitat in the wildlife section of the draft EIS, since it is the most productive wildlife habitat in terms of species diversity. It is also the wildlife habitat type most vulnerable to impacts from livestock grazing. Riparian habitat identified and considered in the draft EIS was limited strictly to public lands. Problems associated with extensive fencing of riparian habitats were discussed on page 228. Therefore, fencing of an extensive nature was not favored. Also see responses 28 and 86.

134. The contribution of herbaceous species to riparian ecosystem productivity, bank building processes, bank stability, and sediment entrapment is recognized. However, herbaceous species are difficult to work with because of their varying availability where livestock are present. Thus, after considerable trial and error, the assumption was made that condition and vigor of deciduous woody species are valid indicators of general riparian habitat condition. After completing 300 or more surveys, we conclude the assumptions are valid. Also see responses 82 and 84.

135. A "worst-case" situation was assumed for analysis purposes. Estimates were based on the best information available for the soils in the study area. As corroborated by the Soil Conservation Service, these estimates are reasonable. Additional research by the SCS involving application of the Universal Soil Loss Equation on rangeland soils will be used to refine assessments of public land soil erosion as that information becomes available. However, as indicated in the draft EIS, soil losses due to projected range developments would be insignificant. More importantly, the data used in the analysis were quantified primarily for the purpose of providing a common basis for comparison of the various alternatives.

Because herbaceous plant material would be left intact by sagebrush spraying, estimates of soil erosion losses are considerably less than those presented in a "worst-case" situation for selective burns, where bare ground would be vulnerable to the extreme wind or rainstorms possible in the study area.

136. Infestations of noxious and poisonous plants can pose major problems where they occur, as stated in your comment. (See also the first paragraph of page 64 in the draft document.)

137. The statement on palatability (page 64, second paragraph) is concerned with palatability for livestock. Leafy spurge is occasionally eaten by mule deer as well as by domestic sheep. Along with other factors, these animals have played a role in the spread of leafy spurge.

138. The reference to annual weeds was intended as a general statement about any annual plant considered as a weed, and not restricted to noxious plants as designated by the state of Montana or an individual county. It is recognized that none of the noxious plants listed in table 2-12 in the draft are annual plants.

139. Noxious plants have succeeded in establishing themselves in some rock, shrub, conifer, and waste areas. The statement in question concerns the potential for establishment with Alternatives A, C, and F. It is expected that the potential for establishment would remain the same as at present on the mountain shrub, conifer, and waste types for these alternatives. That potential is not expected to increase or decrease.

140. The 8 percent reduction in question was made for suitability deductions amounting to 44,389 AUMs. An entry in the Errata section, under page 11, shows the diagram as it should have appeared in the draft EIS.

141. A site and condition field survey was not conducted. Methodology for determining range condition is described in Appendix 2, pages A-28 through A-31.

142. We agree that access is important to effective beetle eradication, and access problems were discussed at length in the recently completed planning effort. However, these actions are not discussed in this document because the primary focus of a grazing EIS is the potential impacts of grazing management.

143. Woody slash accumulations more than 1.5 feet deep have been shown to greatly reduce deer and elk use, as discussed in the annual progress reports of the "Cooperative Elk Logging Study," a joint study by the Forest Service, the BLM, the

Intermountain Forest and Range Experiment Station, the Montana Department of Fish, Wildlife, and Parks, and the University of Montana.

144. Increased deer harvests have been encouraged by the BLM in some areas. However, as explained on page 65 of the draft EIS, mahogany occurs in minor quantities on many deer winter ranges, and it cannot be used as a key plant for management purposes.

145. We agree. However, as stated on page 71, some elk winter habitats are composed of as much as 73 percent public land. Also see responses 54 and 95.

146. See responses 54 and 95.

147. The draft text is in error. Entries in the Errata section of this document, under pages 82, 121, and R-4, change the name to read "Granville Stuart."

148. Mixed landownership is recognized when we consider predator control requests. On many areas, however, large blocks of public lands are considered for predator control. The point made in the draft EIS is that the BLM cannot guarantee stock growers complete freedom from predator losses on public lands. These predatory species also have public values for sport hunting, fur trapping, and photography, and simply have the right to exist in the wild. Any plan for control of these species must therefore consider all points of view.

149. Sage grouse and hungarian partridge commonly use the outer edge of riparian habitats during late summer and early fall as a source of succulent forbs. Partridge also commonly winter in the riparian habitats within the study area.

150. We agree. See pages 148 and 151 in the draft EIS.

151. An entry in the Errata section of this document, under page 166, changes the paragraph in question to include the term "grazing management."

152. Entries have been made in the Errata section of this document, under page 171, to include acreage percentages.

153. The draft EIS says "only a slight" improvement in riparian habitat would occur under Alternative B. Our evaluations of 22 existing AMPs suggest that stocking rate is important, although certainly not to the same degree as the grazing systems. The principal benefit from reduced stocking rates would not accrue to riparian plants; rather, it would be a reduction in physical damage of banks through trampling.

154. An entry in the Errata section of this document, under page 170, inserts a new paragraph to include this information.

155. The 30 to 40 miles of new fence in question is described on page 187 of the draft as being within deer habitat. The 100 miles described as "potentially restricting antelope" refers only to antelope habitat. In these areas, antelope habitat and deer habitat do not overlap.

The 2,700 miles of new fencing on a "worst-case" basis for implementation of Alternative F would be accompanied by extensive removal of all interior pasture fences, probably resulting in little if any net change in total quantity of fencing on public lands. Further, even though approximately 2,700 miles of fencing would be required to enclose the public lands, it is doubtful that all public lands would have to be fenced to exclude livestock, because steep topography and the presence of existing fences would serve this purpose in some areas.

156. The forage losses to bighorn sheep referred to on page 209 were from increased allocations to livestock under Alternative D. Under Alternative A, 128 AUMs of additional forage would be available to bighorn sheep.

157. Data on lamb necropsy and weather indicate only two springs of sufficient severity to be a factor in lamb mortality between 1974 and 1980.

158. Maintenance of fencing around riparian areas could very well entail greater expense than that estimated in the draft EIS.

159. The riparian habitat under Alternative B was referred to as improving "very slightly." See response 153.

160. One of the criteria on which wilderness quality is based is naturalness. In the context of the referred discussion, existing vegetation, whether forest, brushland, or of grass species composition, constitutes the "natural" situation. Vegetation manipulation practices as outlined in the draft EIS could affect this naturalness by creating a visual contrast, or discontinuity, to the surrounding land cover. It is this discontinuity which would be of concern from a wilderness standpoint.

161. Livestock use of riparian areas would continue with little or no measurable change in impacts to riparian vegetation, even with the proposed reductions in livestock numbers. There should, however, be significant responses in vegetation of uplands and sagebrush communities as a response to livestock reductions discussed under Alternative B.

162. The last paragraph on page 245 is in error, and an entry in the Errata section of this document deletes this paragraph.

163. To avoid any confusion on this point, an entry in the Errata section of this document, under page 247, amends the sentence in question to read, "If increased public demand for fishing and hunting opportunities in the future is to be met, . . ."

164. Scattered landownership patterns are a major factor affecting the management of public lands in the study area. While this EIS focuses on livestock grazing impacts on public land resources, your points certainly are valid. These additional issues were assessed in detail in the recently completed planning effort for the study area.

The typographical error in the first paragraph of page 248 has been corrected on the revised page 248 included in this document.

165. A determined effort was made by the BLM to interview as many recreationists using public land in the study area as possible during 1977 and 1978. The majority of those interviewed were seeking a natural, primitive recreation experience. Survey results for the 1978 Montana Statewide Comprehensive Outdoor Recreation Plan (SCORP) revealed similar findings. All of the information gathered to date which we are aware of supports the statement that the public is primarily seeking a primitive, natural experience.

166. See responses 12 and 42.

167. Information on the economic impact of wildlife/recreation-related development is included in this final EIS on revised pages 25, 34, 35, 36, 127, 130, 296, and 299.

168. See response 28.

169. Conflict resolution records, along with other information pertinent to the development of AMPs, are available in the grazing files at the Dillon Resource Area office. Space limitations prevented the inclusion of this information in the draft EIS; however, major planning decisions that guided resource allocations are listed in Appendix 20.

Mitigating measures and standard operation procedures designed to meet wildlife needs are included in descriptions of the alternatives in chapter 1 and in Appendix 5. Specific mitigating actions for Alternative C are shown by allotment in Appendix 12.

170. The proposed initial livestock rate shown in the draft EIS is in error. An entry in the Errata

section, under page 12, shows the correct initial stocking rate of 110,033 AUMs.

171. The BLM recognizes the desirability and potential for use of ecological classifications and successional stages in riparian habitat assessments. The ability to identify habitat types and then predict their potential and responses to management is a recognized need. Completing such an ecological classification would require years of intensive study plus the availability of a large number of riparian habitats in "near-pristine" or "pristine" condition.

In Mueggler and Handl's 1974 publication, 355 "pristine" vegetation stands were analyzed in grassland and shrubland types. A quotation from that publication demonstrates the difficulty confronting an ecological classification of riparian habitats: "Ideally, undisturbed communities of climax vegetation should be used for developing a classification based on biotic potential. However, the presence of domestic livestock in Western Montana for over 100 years has left few such areas unchanged by grazing" (Mueggler and Handl, 1974). We would add that "pristine" riparian sites are far less common than are "pristine" rangeland habitat types because livestock prefer riparian sites.

We certainly concur with your statement regarding the importance of species diversity, and we plan to supplement the riparian surveys with quantified vegetative profiles. In addition, we have established photo plots that will record the response of all plant species. Mueggler and Handl do not, however, document the importance of species diversity in riparian habitats.

The discussion of riparian survey methodology was necessarily brief in the draft because of space limitations. A much more detailed description of methodology is available upon request, as noted on page A-85. Also see responses 28, 82, 83, 84, 85, 86, and 134.

172. Riparian habitats were analyzed in detail and all survey data were quantified and rated in accordance with procedures described briefly in Appendix 7. More than 300 riparian reaches were surveyed and analyzed. Space limitations precluded inclusion of this massive quantity of data in the draft document.

Riparian survey data included seven parameters on each stream. These data were considered on each reach for each of the six EIS alternatives to derive net impacts summarized in figure 3-14 and table 3-30. Survey data collected on riparian vegetation, water quality, benthic macroinvertebrates, fish habitat surveys, and fish populations are filed

by stream in the Dillon Resource Area office. A summary of these data is presented in Appendix 10 for streams comprising fisheries. Nonfishery stream habitat data were not presented in the draft because of space limitations. Further discussions of riparian methodology are found in responses 82, 83, 84, 85, and 134. Also see responses 28, 43, 159, and 222.

Your references to Tom Creek and Odell Creek riparian conditions apply to private lands on those streams, not to public lands. Our data show riparian habitats on public land on these streams are in good condition (see Appendix 10, page A-28).

As explained on page 228 of the draft EIS, fencing of riparian habitats is viewed as a last resort because of prohibitive costs and significant environmental impacts. Net impact on total riparian habitat displayed in figure 3-14 is more pertinent than is the total miles of stream where grazing was excluded by fencing. As shown in figure 3-14, the proposed action would leave 30 percent of the riparian habitat in an unsatisfactory state, not 50 percent as indicated in the comment.

Considerable thought was given to doing an economic analysis of riparian benefits, but such an analysis was deemed technically infeasible because of the complexity of the onsite and offsite impacts, the intangibility of many riparian values, and the complex interrelationships between riparian condition and other habitats such as those of invertebrates and fishes.

173. Please refer to the discussion under "Monitoring and Evaluation" on page 9 of the draft EIS. Also see response 28.

174. See response 44.

175. The principal impacts to elk described for the Ruby Mountains and Blacktail Ridge involve elk summer habitats, not winter habitat. Generally speaking, elk winter habitat improvements that would occur under Alternative A would accommodate a moderate increase in wintering elk. Conflicts on summer habitat between elk and livestock stem mainly from social intolerance of elk to high livestock numbers, not from forage competition. This conflict necessitates the annual presence of fairly extensive rest pastures that contain the mesic habitat preferred by elk. If these rest pastures were to provide for elk, significant reductions would have to occur in livestock allocations.

On several allotments in these areas (0002, 0020, 0147, 0479, 0485) major reductions in stocking levels have been proposed (Appendix 13). Additional reductions imposed at this time would in-

voke additional individual economic hardships on livestock operators; furthermore, in most of the allotments in these areas, private lands predominate.

176. Nongame species were discussed in the draft EIS to the fullest extent possible given the amount of data available pertaining to the study area. Information from contract studies was presented in a form deemed to be appropriate for making major resource allocations and consistent with the precision of the data collected.

The tremendous diversity of nongame birds and mammals precluded an in-depth analysis of habitat-livestock grazing relationships on a species level. Our observations indicate that for almost any habitat impact, a great many species are affected—some beneficially, others adversely. In such a situation, it becomes necessary to focus management concern on "priority species" or target species, as you have suggested. Wildlife personnel are making every possible effort to pursue this line of action.

177. We agree that the grayling needs more consideration; however, public lands in the Centennial Valley do not support either resident or spawning runs. Most of the riparian areas on public lands are in satisfactory condition. Complete dewatering for irrigation, construction of reservoirs, sedimentation from upstream sources, introduction of exotic fish, and blockages of the stream by beaver dams on private lands are some of the reasons populations of grayling do not occur in significant numbers in stream reaches on public lands.

178. The views of all concerned individuals will be carefully considered in development of the final proposal. Proposed range developments, including range manipulation, will receive close scrutiny by an interdisciplinary team that includes a wildlife biologist before any developments are implemented. Also see response 44.

179. The actual time of application for chemical control of sagebrush will be determined by the phenological stage of the sagebrush to be sprayed, along with indicator plants such as Sandberg bluegrass. The optimum time for application will vary from year to year with weather conditions and from site to site depending on elevation and exposure.

180. Soil loss estimates for range developments such as fences were based on a "worst-case" situation, where ground would be bared. While actual losses on most soils in the study area would be less than those projected in the draft EIS, it can safely be said that losses would be no worse than

those estimated. As discussed in the draft EIS, even these "worst-case" losses would not be significant. In this light, the added time and cost for more specific soil loss estimates on a site-by-site basis could not be justified.

181. Evaluation and clearance of projects to control noxious weed infestations is accomplished through applicable cooperative agreements with state agencies and was discussed in detail in the recently completed multiple use planning effort. However, because the draft EIS focuses on resources or actions that could affect or be affected by the proposed grazing management program and alternatives, procedures for noxious weed control were not discussed in that document.

182. The soil loss prediction of 4.3 tons per acre per year for each range development was used as a consistent "worst-case" soil loss estimate as a base for comparing the various alternatives. When better information was obtained, it was used in place of our estimates. Specifically, 2 tons per acre per year was used for spraying on the basis of research by Dennis Phillippi for the Soil Conservation Service (see page 139, table 3-2). Also see response 180.

183. As stated in the "Infiltration and Runoff" section of the draft EIS, page 155, it has been established that grazing does affect infiltration/runoff relationships. The hydrologic impacts of grazing on infiltration/runoff are noticeable on a site-specific basis (10 acres), but are not significant when the overall hydrologic balance or stability of a larger area (for example, the Big Hole watershed above Melrose) is considered.

184. The soil loss figure of 4.3 tons per acre per year is used only for areas disturbed by the proposed range developments for each alternative. It was not meant to imply that this amount was a general soil loss figure for the study area.

An attempt was never made to assign soil loss figures for each erosion condition class. That kind of information would be invaluable, but costly and time-consuming to obtain. The only quantification we have for the erosion classes is the present and predicted acreage of each class for each alternative (see the "Erosion" section on page 136 of the draft EIS).

185. "Range Condition Class" and "Range Trend" are defined in the Glossary of the draft EIS and are further clarified in the "Vegetation" section of the draft EIS, page 49, and in Appendix 2.

It is entirely possible for an allotment to be in good to excellent condition and have a static or downward trend on all or a portion of that allot-

ment. A good example of this is the Mosman allotment (0011), where studies show that although this allotment is in good to excellent condition, approximately 90 percent of the allotment has a static trend and 10 percent has a downward trend. It is also possible for range in good to fair condition to be improving (in an upward trend).

Proposed adjustments in the allocation of forage to livestock do not depend exclusively on range condition and trend. On some allotments, proposed livestock forage allocation adjustments were established after other competing resource needs were considered, such as wildlife habitat enhancement and watershed stabilization.

186. Our review of Appendixes 8 and 13 shows them to be consistent. Please note that in Appendix 13 the AUM adjustments shown are stocking level changes compared to the current permitted use identified in Alternative E (No Action). Current permitted use was replaced by average actual use on existing and revised AMPs (see footnotes "a" and "b" on page A-198 of the draft EIS).

187. The livestock reductions and intensive management systems considered in Alternative C would largely mitigate the adverse impacts to watershed, wildlife, and recreation identified in Alternative A. Alternatives B through F were included in the draft EIS to meet legal and policy requirements and to apprise the public and decision makers of the wide array of available management options.

188. See response 180.

189. Public and private lands in southwestern Montana have traditionally furnished spring grazing, while Forest Service allotments furnish summer-fall grazing. In many cases the BLM and affected operators have developed grazing management programs for spring ranges that form allotments separate from nearby Forest Service lands. Every effort is being made to coordinate the development of joint BLM-Forest Service AMPs where appropriate. Also see response 23.

190. It is acknowledged that the same or similar words used to describe different philosophies or concepts can be very confusing to the reader. In the example you have cited, "satisfactory" or "unsatisfactory" was used to describe elk habitat in the summaries and the wildlife sections of the draft EIS, while "ecological range condition" or "range condition" was used in the summaries and the vegetation sections when referring to vegetation composition.

The information presented in the Summary section is intended to brief the reader on the overall content of the draft EIS. "Range condition class"

is defined in the Glossary and further clarified in chapter 2 (page 49) and chapter 3 (pages 161-170), and in the Appendixes. Summary references to wildlife habitat are expanded upon in chapters 2 and 3.

191. The BLM recognizes the Montana Department of Fish, Wildlife, and Parks as an important source of information for formulating management decisions that could affect wildlife habitat. We will continue to coordinate with the MDFW&P and to solicit opinions from local and regional personnel regarding ongoing and future land use actions. Also see response 44.

192. After reviewing public comments and the analysis of impacts discussed in the draft EIS, management is reconsidering the proposed grazing treatment in the Gallagher Mountain and Armstead-Upper Sage allotments. The reevaluation is based on deer and elk summer-fall habitat needs and a change in ownership that will combine the two allotments into one grazing system. (The two allotments were owned by separate individuals in the past.) A new grazing formula may need to be worked out for these two allotments so that at least one pasture with high quality elk summer-fall habitat could be rested each year.

Significant AUM reductions beyond those in the proposed action do not seem to be warranted at this time, since range conditions are largely good and excellent and the trend is up (Appendix 3). The situation is further complicated in this case by the scattered landownership pattern.

The BLM is reluctant to make major changes in forage allocations between livestock and wildlife when our recent inventories have indicated good range and watershed condition on the public lands in these two allotments. We assume that the intermingled and adjacent private lands are also in good condition. Significant reductions in livestock use on the public land would place additional pressure on private land. This could be to the overall detriment of wildlife, since private land often provides crucial wildlife habitat.

193. On the basis of public comments and the impacts outlined in the draft EIS, management is reconsidering the authorization of sheep grazing on mountain mahogany ranges on the Hansen (0108) allotment. The proposed action may need to be revised so that sheep grazing will continue to be authorized only on areas that have been used in the past.

Inventory results indicate that the range resource is in good and excellent condition, so the need to rotate sheep use throughout several pastures as proposed is questionable. Rotation could cause

serious competition for browse between deer and sheep.

194. See response 44.

195. The grazing system proposed for the Mayberry allotment is expected to meet livestock forage management objectives. Priority will be given to the monitoring of browse condition, and if browse condition is found to be declining under whatever grazing management system is implemented, grazing system adjustments will be made.

196. We recognize that the Timber Creek allotment provides significant mule deer winter range and that the proposed grazing management continues to represent a conflict with deer use. The proposed reductions in stocking rates and shortened season of use should partially mitigate adverse impacts. Livestock use in this allotment was given strong consideration in the proposed action because it appeared that a significant adverse economic impact would occur to livestock operators if wildlife needs were totally met. See response 44 regarding sagebrush treatment.

197. Further livestock reductions on this allotment were not felt to be warranted considering the proposed stock reduction from 98 AUMs to 51 AUMs and the deferment of livestock turnout by two weeks, with range condition in an upward trend. Also see response 44 regarding sagebrush treatment.

198. See response 44.

199. A proposed reduction would change the stocking rate of the Belmont allotment (combined 0469 and 0665) from 1,365 AUMs to a proposed 677 AUMs, and the season of use would be changed from yearlong (3/1 to 2/28) to primarily summer-fall use, plus two weeks during February. These factors should substantially improve wildlife habitat on the allotment, although it is recognized that from the standpoint of optimal wildlife habitat, any level of livestock use may be a conflict. Portions of the allotment are considered crucial deer winter habitat; however, this habitat in the juniper breaks on the east side of the allotment is not heavily used by livestock, and the proposed grazing reduction should improve the situation. See response 44 regarding sagebrush treatment.

200. See response 44.

201. Substantial elk calving use has not been discovered on this allotment, so it was not felt that the June 15 turnout date represented a significant conflict. In addition, private lands predominate in this area, which does constrain BLM manage-

ment prerogatives to some extent. See response 44 regarding sagebrush treatment.

202. The livestock turnout date of June 1 for the Mill Gulch allotment, as shown in the draft EIS, was in error. An entry in the Errata section of this document, under page A-11, changes the date to June 15. It is recognized that a conflict with elk calving may still occur, but limited BLM ownership in this allotment restricts management options.

203. See response 175.

204. Wildlife habitat needs were considered throughout the planning process for the Price Creek allotment, and the values of elk and moose habitat were stressed. However, since elk use is noted as important but not crucial, multiple use planning decisions, as carried forward in the proposed action, were made to give priority to livestock use. Unfortunately, management options are also limited by landownership patterns. Use on this allotment will be closely monitored, and if severe effects on elk use occur, reevaluations of the grazing management will be initiated.

205. After reviewing the public comments and the impacts outlined in the draft EIS, management is considering a modified course of action. Considerable concern was expressed regarding riparian habitat condition on the Squaw Creek allotment, among others. It has been proposed that extensive field reviews be conducted by BLM personnel, Montana Department of Fish, Wildlife, and Parks, and other interest groups to evaluate the feasibility of fencing these tracts. If fencing was undertaken on this allotment, riparian grazing use would be closely monitored.

Land acquisition and exchanges on tracts such as Warm Springs have been proposed and will be pursued as priorities and funding permit. Also see response 213.

206. The proposed action recommended that this tract be excluded from livestock use and reserved for wildlife. Fencing of the tract, if included in the final decision, would take place after a thorough field review for proper fence placement, and when funding became available.

207. The importance of the Idaho-Jack Creek allotment (0499) for wintering elk has been stressed throughout the planning process. In Alternative C, exclusion of livestock from this allotment was recommended. After reviewing the public comments and a thorough staff review of the impacts identified for the proposed action, management is considering changes in the proposed action for this allotment. Approximately 4.25 miles of fence would be required to reserve

for elk the 247 AUMs that are currently allocated to livestock. It is anticipated that this action could potentially at least double the current 100-head elk herd.

208. The importance to elk of the allotments outlined in the comment is recognized. The Price Creek allotment is discussed in response 204. The Wisconsin Creek allotment is going through a change in ownership. When the draft AMP is reviewed with the new owner, incorporation of a rest treatment in the grazing system will be emphasized.

The Strawberry Ridge and Preacher Creek allotments have a highly fragmented pattern of public and private landownership, which constrains management options. Preacher Creek, for example, is about 70 percent privately owned. The BLM is pursuing a land exchange involving the Robb Creek allotment, as we agree that fragmented landownership compounds management problems.

209. Management problems related to control of livestock use occur in the Robb Creek allotment because of scattered landownership and a lack of fences needed for livestock control. The BLM is committed to reducing conflicts between livestock and wildlife where possible; in this case the problems mentioned could result in competition for forage and/or intolerance of wildlife for livestock. Land exchange negotiations have been initiated but have been unsuccessful to date. Fence construction has been limited by lack of funds and maintenance agreements.

210. We acknowledge that it would be necessary to fence many unallotted tracts in order to avoid livestock use. However, new fencing of this sort is constrained by several factors such as aesthetics, costs of construction, lack of funds and personnel needed for maintenance, and potential conflicts with wildlife movement. These tracts will be reviewed individually, and fencing proposals will be made if it is feasible and desirable to do so.

211. See response 194.

212. Seven water troughs are proposed for the allotment in conjunction with well development in the adjacent Spring Brook AMP (0516). Water development is not seen as a conflict with wildlife in these allotments. Also see response 121.

213. The referenced 40-acre tract in the Warm Springs custodial is included in a large private pasture with little opportunity for BLM management.

The recently completed planning effort proposed to exclude grazing and leave the area for wildlife

use only, pending land exchanges and subsequent fencing. Riparian survey information is not available for this tract, but range surveys show the area receives light grazing use and does not now represent a serious conflict with moose yearlong habitat.

214. See response 117.

215. See response 175.

216. See response 204.

217. The impacts noted as leaving 33 percent of surveyed riparian habitat and moose habitat in unsatisfactory condition apply only to a relatively small proportion of total moose habitat in the study area. The first paragraph in the "Moose" section of the draft EIS, page 210, says: "It should be noted that only 10 percent of total moose habitat is strictly in riparian zones . . . the remaining 90 percent is in the mixed spruce-fir and riparian habitat type in the Centennial Valley, and it is considered in satisfactory condition." Therefore, only about 3 to 4 percent of total moose habitat would remain unsatisfactory under the proposed action (see figure 3-10 and page A-211). Also see response 28.

Of the 23 allotments listed in table 3-27 showing no change under the proposed action, 15 are currently in good or excellent (satisfactory) habitat condition. If the proposed action in this case becomes part of the final decision, the remaining eight allotments would continue in unsatisfactory habitat condition.

218. See response 44.

219. There have been substantial reductions in stocking rates on the larger AMPs in the Sweetwater area. Sweetwater AMP (0471) has been reduced by 776 AUMs, Spring Brook AMP (0516) by 528 AUMs, Rock Creek AMP (0512) by 267 AUMs, Belmont AMP (0469) by 360 AUMs, and Sweetwater Basin (0518) by 116 AUMs. These AUMs should provide substantial increases in cover and forage for sage grouse, as well as for a number of other wildlife species.

220. The majority of the elk winter habitat identified by the BLM does not lie within the McCartney Mountain AMP (0323); it is in the adjacent McCartney custodial. Although this area is proposed to be included in the AMP, management of this area would not be changed from current stocking levels or season of use.

221. See responses 12, 43, and 44.

222. In response to public comments and the impacts on riparian habitat identified in the draft EIS, several modified courses of action are being

considered. Most riparian habitat on the Madison and Big Hole rivers is on non-AMP tracts, which are difficult to control without fencing. Under consideration is the inclusion of fencing or the use of natural barriers on all Madison River tracts except Armitage (0452), Mill Creek/Gustin (0467), Riverside (0524), and Madison Valley Pasture Holding Association (0550). Also being considered is reduction of stocking levels or the implementation of different grazing systems to protect riparian habitat. All areas would be closely monitored, and if improvement in riparian habitat condition is not adequate after five years, livestock may need to be excluded.

The four allotments noted above are considered in satisfactory condition now, or are expected to improve under proposed management. In the interim, field reviews of each allotment will be conducted with landowners, sports enthusiasts, Montana Department of Fish, Wildlife, and Parks personnel, BLM personnel, and other interested groups to evaluate the feasibility of fencing these tracts. We will consider fence placement and efficiency, cost, maintenance, aesthetics, and stock management problems against resource values.

The inclusion of allotment 0457 (Bar Seven) in table 3-30 for residual adverse effects was in error. An entry in the Errata section of this document, under page 233, removes this allotment from the table. During the planning process, fencing of this tract was proposed, as well as designation of a grazing system or reduction of stocking rates to favor riparian vegetation. If conditions have not met objectives in five years, livestock would be excluded. Field reviews also will be conducted as explained above.

Riparian condition on allotment 0524 (Riverside) was satisfactory in three out of four surveys, and the proposed grazing management (grazed 8/1 to 9/30, 122 AUMs) should maintain or improve the current condition.

The proposed use on the Squaw Creek allotment (0462) is an improvement over current use because the amount of hot season grazing allowed each year would be reduced. However, it is acknowledged that adverse effects on riparian habitat on the Big Hole River non-AMP tracts would continue under the proposed action (Alternative A). Therefore, the proposed action is being reconsidered on the basis of the impacts identified in the draft EIS and the public comments.

The 30 percent of riparian habitat that would remain unsatisfactory under the proposed action is contained in 40 allotments. Of these, 20 allotments, representing 32.85 miles of stream, have sufficient public land containing riparian habitat

to allow reconsideration of objectives to improve habitat condition. Seven of the allotments are custodial tracts on the Big Hole and Madison rivers; they have been discussed above. The remaining 13 allotments contain from 40 to 100 percent BLM land, and they have already received thorough staff reviews regarding riparian habitat condition during formulation of the proposed action. However, it is apparent from public comments on the draft EIS and from public meetings during the planning effort that AMPs containing extensive riparian habitat on public land should be reevaluated. Management is now considering the development of alternative water sources to redistribute livestock out of riparian habitats.

Water developments are being considered on 4 of the 13 allotments mentioned above—PHW (0031), Red Mine (0034), Strawberry Ridge (0421), and Garden Creek (0479). BLM personnel are evaluating other areas where water developments could be used to reduce adverse impacts on riparian habitats without introducing conflicts with other wildlife species or resource needs. Eight of the 13 allotments with residual unsatisfactory riparian habitat are already sustaining substantial livestock reductions, which could at least partially reduce further stream bank deterioration. All allotments with unsatisfactory riparian habitat will be priority areas for establishing trend studies to demonstrate to management any impacts and the potential need for future revision.

223. The Steamboat Rock custodial allotment—6,000 acres of BLM land—has been unleashed in the past. The area's long, narrow configuration has led to its use as a stock driveway. The University of Montana range survey showed that the allotment has potential for AMP management with a proposed level of use at 1,487 AUMs. An AMP has not been developed at this time, but if the proposed action (Alternative A) is accepted as part of the final decision, such a plan would be designed and implemented in the future.

224. See responses 12 and 43.

225. The comment period for the Mountain Foothills EIS was originally scheduled for 45 days but was extended to 49 days to allow for consideration of last-minute submissions. A further extension of time was not possible given the court-mandated September 30, 1980, deadline for completion of the final EIS. Also see response 18.

226. See responses 12 and 43.

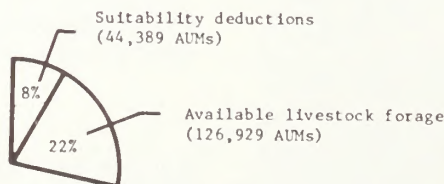
CORRECTIONS AND REVISIONS

The revisions incorporated in this section are based on public comments, our reevaluation of the content on the basis of new or revised information, identification of errors or omissions, and changes in policy or guidance due to new laws or regulations.

ERRATA

As you go through the following list to make changes in your copy of the draft Mountain Foothills EIS, count a partial paragraph at the top of a column as one paragraph. The word or words to be changed are underlined in the "Should Read" column. If the changes to a given page are extensive, the notation "see revised page" appears. The revised pages follow these Errata pages, and the changed portions of those revised pages appear in bold print.

Page	Column	Paragraph	Line(s)	Should Read
Title Page	see revised page			
Back of Title Page		2	6	would <u>improve</u> slightly, with some . . .
		2	8	poorer, and the <u>short-term</u> economic . . .
i-vi	replaced by Summary section in this final EIS.			
viii	--	--	last 2	These two lines should be indented to indicate they are subtopics under "Surface Water Supply."
ix	--	--	10,11	These two lines should be indented to show they are subtopics under "Range Condition and Trend." They should be in line with the "Alternative" headings below them.
ix	between lines 17 and 18			<u>Conclusions....179</u>
xi	Figures; entry 3-3 entry 3-7			<u>Long-term Sediment Yield</u> <u>Impacts on Elk Habitat</u>
xiv	Tables; entry 3-33 entry 3-36 entry 3-37			<u>Potential</u> Impacts of Alternatives . . . Summary of Net <u>Change</u> . . . <u>Change</u> in Current Season . . .
<u>Chapter 1</u>				
1	right	6	12,13	. . . private grazing associations [cross out next 6 words] with
3	left	1	2	51 <u>unallotted</u> areas.
5	left	3	5	tain <u>wolf</u> , and the grizzly . . .
10	left	5	1, 2	Temporary nonrenewable permits[cross out next 10 words]could
10	right	1	14	. . . were based on <u>forage utilization</u> ,
11	--	3rd diagram should appear as follows:		



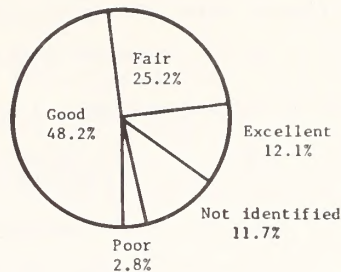
Page	Column	Paragraph	Line(s)	Should Read
12	right	2	3	. . . livestock rate of <u>110,033</u>
20	right	2	6	AMP areas, and <u>unallotted</u> status . . .
20	right	4	3,4	. . . year 1980, as shown in table <u>1-8--six more</u> range technicians and <u>nine more</u> operations technicians
20	right	5	4	be needed for <u>proposed</u> AMP . . .
22,23	The upper and lower boxes on these two pages should be directly in line; that is, the first line on the right page should be read as a continuation of the 1980 information for Alternative A, and so on.			
25	see revised page			
28	under Vegetation--Range Condition, line "Excellent," 6th col.(B): <u>95,763</u> line "Good," 6th col.(B): <u>381,513</u> line "Fair," 6th col.(B): <u>199,321</u>			
29	Line "Grizzly Yearlong"--change figures to read as follows across the page: <u>99%; 90-99%; 90-99%; 90-99%; 90-95%; 90-99%; 90-95%.</u>			
31	see revised page			
32	First column, line 8--change "operations" to " <u>families</u> ."			
33	see revised page			
34,35,36	see revised pages			

Chapter 2

43	right	4	1	<u>Moist</u> clays are easily . . .
54	right; table 2-8	Total		Number in total column should be <u>453,971</u>
58	right	2	6	. . . available, especially <u>if</u> the
61	Table 2-12 should be titled: NOXIOUS AND POISONOUS PLANTS AND THEIR OCCURRENCE BY ALLOTMENT			
69	Bottom of table 2-14; add at end of last line: <u>(48.4%)</u> .			
76	left	2	2	high quality summer habitat <u>unless</u> . . .
82	right	6	2	. . . by <u>Stuart</u> (1925) and
84	Rocky Hills (top line), column 4: <u>5-10</u>			
88	right	3	8	. . . Lima <u>Reservoir</u> is used
89	right	2	4	. . . stream banks (<u>see Appendix 7</u>). The assumption was
90	In heading on lower half of page, left side, " <u>Riparian</u> " is misspelled			
115	right	4	8	toric District <u>and Virginia City Historic District</u> <u>contain</u> any . . .
115	right	5	6	. . . a permitted <u>use</u> of about
121	right	1	6	. . . Northwest (<u>Stuart</u> 1977).
123	right	4	6-7-8	. . . The operations in [<u>cross out the next 7 words</u>] the Wise River . . .
127	see revised page			
130	see revised page			

Page	Column	Paragraph	Line(s)	Should Read
<u>Chapter 3</u>				
135	right	3	2	. . . increase about <u>13</u>
135	right	3	4	. . . increase about <u>29</u> per-
136	right	3	1-2-3-4	<u>Erosion is expected to increase on an average of 8 per-</u> <u>cent of the existing, revised, and proposed AMPs and</u> <u>on 27 percent of the unallotted areas and non-</u> <u>AMPs (see Appendix 19). This is due</u>
152	left	7	10	. . . AMPs under <u>Alternative E.</u>
155	see revised page			
156	Table 3-12, line "B: Limited Action": <u>533,300 (-10%)</u> ; next 8 figures remain the same; <u>2,288,800</u> ; last figure <u>remains</u> the same.			
157	see revised page			
158	left	2	2	would be <u>2,288,800</u> tons . . .
158	left	2	6	. . . sediment yield by <u>10</u> percent
159	The bar for Alternative B should be extended to indicate <u>2.3 million</u>			
165	right	3	14	. . . after <u>treatment</u> , but by eight
166	left	3	1-2-3-4	<u>Grazing management</u> and adjustment of livestock numbers to obtain proper use <u>are</u> the most important controllable <u>factors</u> in maintaining or improving range condition. Without <u>these</u> , the beneficial effects from
166	right	3	3	. . . moisture <u>absorp-</u>
170	left	1,2		Insert between first and second paragraphs: <u>Seedings of introduced species are not meant to</u> <u>contribute to improved native range condition.</u> <u>Range condition is improved indirectly through the</u> <u>use of seeded pastures, which allows deferred</u> <u>grazing or rest of native range.</u>
171	left	5	1,2,3, 4,5,6	<u>Forty-eight (existing and revised AMPs) of the 186</u> <u>allotments identified for AMPs would be operational.</u> <u>This encompasses 37 percent of the total BLM acreage.</u> <u>The remaining BLM acreage, 63 percent, would be left</u> <u>without proper grazing management, and the physio-</u> <u>logical plant requirements would not be satisfied</u> <u>This would be likely . . .</u>
173	see revised page			
179	left	6	4	Action), <u>Alternative B (Limited Action)</u> , Alternative C . . .
179	left	6	8,9	. . . implemented. <u>Alternative</u> [<u>cross out next 4</u> <u>words</u>] E (No Action . . .
179	right	3	6,7	. . . possible expansion of the [<u>cross out the next</u> <u>3 words</u>] population. No . . .

Page	Column	Paragraph	Line(s)	Should Read
180				Bottom diagram, showing Alternative B, should appear as follows:



183	left	2	4,5	. . . to Montana and <u>occur naturally</u> in range communities
188	left	2	5	. . . Medicine [<u>remove comma</u>] Lodge-
200	right	1	1	. . . summer <u>antelope</u> habitats in the study
200	right	1	4	on <u>80 percent</u> of summer . . .
203				The bar for Alternative D, Summer, should be extended to indicate <u>70%</u> .
205	left	1	2	result in <u>90</u> and 85 percent . . .
206	right	2	16	. . . range condition. <u>Ninety-five</u>
209	right	1	12	percent to <u>50 percent</u> (figure 3-9).
214	right	6	3-4-5-6	. . . this alternative. <u>The condition of 9.3 miles of habitat in four allotments would be expected to improve from unsatisfactory to satisfactory.</u> This improvement
215	right	4	3	<u>three</u> riparian habitat areas . . .
215	right	5	2	. . . would result <u>in</u> 99 percent of
218				Table 3-28, line "Reservoir Creek," col. 7 (C: Condition): <u>Good</u> line "Price-Peet Creek," col. 13 (F: Condition): <u>Good</u>
219	left	6	4	ments (<u>0124--Cedar Creek and 0719--Snowline Isolated</u>) a total of <u>112</u> AUMs . . .
223	left	3	3	<u>nine</u> major habitat areas . . .
223	left	4	14	tat, <u>12</u> would show . . .
223	left	4	17	would improve <u>9</u> of these . . .
225				Change line 6, "0708, Fish Creek" as follows: <u>0707; Stibal; Poor; Good</u> ; rest of line same.
226	left	1	7	<u>2,267</u> AUMs out of <u>6,398</u> AUMs would be allo-
226	left	1	11	. . . so that <u>1,452</u> AUMs would be
226	left	3	1,2	A- <u>reallocation</u> of <u>311</u> AUMs for waterfowl (out of <u>2,960</u> AUMs) would occur on the Fish Creek
226	left	4	2	. . . from 1,028 to <u>530</u> , with the
227	right	6	3	. . . described in Appendix 7. Antici-
228	left	2	1	Homay (<u>1976</u>), an authority . . .
230	left	2	16	. . . reproduction, increase dead and deca-
230	right	3	10-11-12	. . . Under this alternative, 39.2 miles of stream would not be grazed; <u>20.1 miles of this</u> is ungrazed at present.

Page	Column	Paragraph	Line(s)	Should Read
231				Figure 3-13, left-hand diagram in second row should read: <u>Dead and Decadent Woody Plants.</u>
233				6; 9th figure under "A": Change 0525 to 0452. 6; in bottom line of figures under "A": <u>Delete 0457</u>
236	left	5	3	health of the nongame <u>species</u> that . . .
238				Figure 3-16, third row of writing on right: trees, grasses and <u>forbs.</u>
245	left	7	5,6	. . . guidelines, so that <u>overgeneralization</u> could be avoided
245	right	5	4	. . . season-long basis <u>could</u>
245	right	6		Delete this paragraph, which begins on page 245 and
246	left	1		ends on page 246
247	right	5	1,2	<u>If increased public demand for fishing and hunting opportunities in the future is to be met, fish</u>
248				see revised page
249				Figure 3-18, caption on left side should read: Percentage of habitat in satisfactory condition/percentage of fish or wildlife population potential <u>that could be attained.</u>
250				Table 3-33, title should be: <u>POTENTIAL IMPACTS OF ALTERNATIVES ON THE QUALITY OF HUNTING AND FISHING OPPORTUNITIES</u>
254	right	3	3,4	. . . waterfowl, and would provide important assistance toward meeting
257	right	1	1-2-3	<u>Two sites</u> in the study area that <u>are listed on the National Register of Historic Places are also partially on public land: Bannack and Virginia City.</u> It would
260				Table 3-36: Where zeros appear in the "Net Change" row under the "Number of Allotments" columns, there should be blank spaces instead--the changes indicated here are in AUMs, not in the number of allotments.
260				The fifth underlined heading in column 1 should be " <u>Unallotted Areas.</u> "
261, 262				Table 3-37: These two pages should have been printed to face each other, as p. 262 is a continuation of p. 261.
267	left	2	7-8-9	continued on 234 allotments, and on 98 <u>unallotted areas</u> , no forage would be allocated to livestock. Current . . .
269	right	2	3	. . . enclosure is established (<u>see figure 3-19 on page 265).</u>
273	right	4	1	. . . source of income <u>for</u> most of the
279	right	2	8-9-10-11	. . . grazing reductions <u>on finances</u> is the effect it has on the operator's ability to repay any loan <u>plus interest.</u> [<u>cross out next 6 words</u>] This impact is
296 through 299				see revised pages and inserted new pages
<u>Chapter 4</u>				
303	left	2	19	<u>process.</u>
304	right	"Other Organizations"		<u>Cross off Waterloo Cooperative State Grazing District</u>

Page	Column	Paragraph	Line(s)	Should Read
307	left	5	3	. . . Prepared analysis of <u>impacts</u> on ranch

Appendixes

A-4; Appendix 1: The headings for this appendix should appear on the left-hand pages (as on A-4, here) rather than on the right-hand pages.

A-5 "Long Creek" line, column 9 (Season of Use): 7/8-12/15

A-11 through A-24: The asterisks should be crossed out in the last two columns of all right-hand pages, and the asterisk-keyed footnote at the bottom of all left-hand pages should be crossed out. Pages A-25 and A-26 should remain as they are.

A-11 "Mill Gulch" line, column 9 (Season of Use): 6/15-10/25

A-27, A-28: see revised pages

A-30 4; Title of column should be "Available Potential Livestock Forage (AUMs)"

A-30 Bottom Line, "Estimate for the Mountain Foothills EIS area," should read: 571,000; 171,318 (30%); 44,389 (8%); 16,896 (3%); 110,033 (19%).

A-32 Appendix 3: We recognize the deficiencies in the apparent trend on the proposed and non-AMP allotments. As better information becomes available through specific range studies and monitoring, trend information will be updated.

A-35 15,16,17,18: Headings: Apparent Trend (in acres)
Up Static Down Undetermined

A-36, A-38, A-40: Heading on far right should be Apparent Trend (in acres)

A-38 "Wallace Peak" line, column 16 (Static): 198
column 17 (Down): --
column 18 (Undetermined): 1,082

A-40 Below double line, in sections showing Existing AMPs and Revised AMPs, heading on columns 15, 16, 17, and 18 should be Current Trend, as shown at top of page before change.

A-41 see correction for page A-35, above.

A-42, A-44: see correction for page A-36, above.

A-44, A-45: see correction for page A-40, above.

A-45: Below double line, change headings as in correction for page A-35.

A-46 through A-68: see correction for page A-35.

A-74 right 3 8-9-10-11 Cross out the sentence beginning "No action" . . .

A-83 right 5 The Waterloo Cooperative State Grazing District is no longer in
and A-84 left 1,2,3 existence

A-84 right 5 The agreement was never signed to establish the Lima Reservoir
Water Users Irrigation Company

A-87 Table AP7-B: Second line of title should read: USED FOR ESTABLISHING RIPARIAN RATING
CRITERIA

A-90 through A-116; Appendix 8, table 8A: Last column on right should be headed: 25-Year
Projection

A-91 "Conover" line (0116), column 5 (Existing Season of Use): 7/15-10/15

A-127 left; Subheading over paragraph 2: 234-BOROLLIC PALEARGIDS, FINE, MONTMORILLONITIC

<u>Page</u>	<u>Column</u>	<u>Paragraph</u>	<u>Line(s)</u>	<u>Should Read</u>
A-135				"Red Mountain Bridge North" line, column 4 (Recreation Activities): <u>Oa; Fst; Flt; Ws</u>
A-136				"Camp Creek" line, column 4 (Recreation Activities): <u>Oa; Fst; Hbg</u>
A-141				"Moose Creek" line, column 12 (Reductions, Wildlife): <u>270d,m</u>
A-143				"Camp Creek" line, column 12 (Reductions, Wildlife): <u>150m</u>
A-143				"Subtotal" line, column 12 (Reductions, Wildlife): <u>7,444</u>
A-148				"Coyote Creek" line, column 14 (Season of Use): <u>6/15-9/1.</u>
A-167				"Grand Total" line, column 12 (Reductions, Wildlife): <u>21,777</u>
A-254	3	--	WL 8.1	Livestock commonly concentrate <u>in</u> riparian areas.
A-257	3	--	10.13	<u>If grazing was excluded</u> , passerine . . .
A-259 through A-270: When this table was assembled, the terms "class of livestock" and "licensed use" were in use. Current usage would make these terms "kind of livestock" and "permitted use."				
A-267	2	5	3,4	. . . Humbug Spires, <u>Bear Trap</u> , and Centennial . . .
A-274	left	6	2,3	The equation should appear as follows:
$\text{Percentage of dependency} = \frac{\text{BLM AUMs}}{7 \text{ months} \times \text{number of AUs in ranch}}$				
A-276	left	1	2	grazing (7 months) <u>caused</u> by change in
A-289	--	3	Alternative E:	<u>Cross out the statement and dollar figure.</u> There would be no project development or maintenance costs with this alternative.
A-291	left	1	5	ground cover, and <u>compaction</u> , with . . .
A-291	left	1	10	condition (<u>compaction</u> , infiltration . . .

Glossary

G-2 right, Crucial Wildlife Habitat, 2: . . . that are necessary to . . .

References

R-4 Information listed for author shown as "Granville, Stuart" should be listed under "S" section (p. R-10) as Stuart, Granville.

R-5 Hormay, August L.: Change "1976" entry to the following:

Letter of September 1, 1976, to Manager, Rock Springs District, Bureau of Land Management, regarding telephone conversation of August 11, 1976.

Map Supplement

SOILS map; Madison Planning Unit--legend should indicate the following:

Low to moderate water erosion hazard
Moderate to severe water erosion hazard
Moderate to very severe water erosion hazard

SOILS map; Beaverhead Planning Unit--third line of legend should indicate the following:

Moderate to very severe water erosion hazard

SOILS map; Madison Planning Unit and Beaverhead Planning Unit--legends should show the following as a source:

U.S., Department of Agriculture, Soil Conservation Service, "Madison County Draft Soil Survey" (1979).

EROSION CONDITION map; Madison Planning Unit and Beaverhead Planning Unit--legends should be changed as follows:

- Line 2: . . . pedestaling, rills, flow pattern, and
- 3: . . . Each feature is rated to give a total erosion condition
- 4: scale (soil surface factor, or SSF) ranging from 0 to 100. Flow patterns and gullies are rated from 0 to 15; all other features are rated from 0 to 14. Higher numerical values in the SSF
- 5: indicate increased severity . . .

RANGE CONDITION map; Madison Planning Unit and Beaverhead Planning Unit--the following explanation should be added to the legend to prevent confusion between the percentages shown by the color codes and those discussed in the legend that now appears on the maps:

This Range Condition map shows all allotments with 0 to 25, 26 to 50, 51 to 75, and 76 to 100% of their total public land acreage in good and/or excellent range condition. For example, when an allotment is shown in the color marked "76-100%," this indicates that 76 to 100% of its total public land acreage is in good and/or excellent condition. The "not identified" class was deleted from the total public land acreage for this computation.

QUALITY OF RECREATION map; Madison Planning unit--the fish symbol in bright yellow (denoting above average fishing opportunities) at T6S,R3W, should instead be in the color denoting average fishing opportunities.

REVISED PAGES FOLLOW THIS SECTION

UNITED STATES DEPARTMENT OF THE INTERIOR

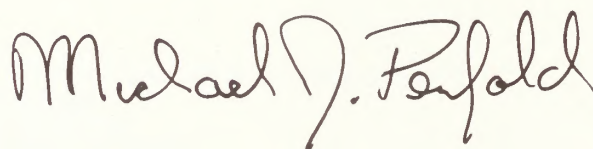
BUREAU OF LAND MANAGEMENT

**MOUNTAIN FOOTHILLS
GRAZING MANAGEMENT PROGRAM**

DRAFT

ENVIRONMENTAL IMPACT STATEMENT

**BEAVERHEAD, DEER LODGE, MADISON, AND SILVER BOW COUNTIES
MONTANA**

A handwritten signature in dark ink, reading "Michael J. Perfold". The signature is written in a cursive style with a large, stylized "M" and "P".

**Montana State Director
Bureau of Land Management**

March 1980

SUMMARY OF ENVIRONMENTAL CONSEQUENCES BY ALTERNATIVES

A summary comparison of the impacts on major resource factors is presented in table 1-9. Through the analysis process, it was found that there would be no significant impacts and no significant differences in impacts between alternatives for climate and air quality, geology and topography, forested areas, wild horses, landownership, mineral resources, or cultural resources.

These **components** are therefore not included in the summary table showing environmental consequences by alternative (table 1-9).

Resource factors have been quantified when practical. Where change is discussed, the reference point for determining change is the existing situation. "Implementation phase" refers to the years 1981 through 1984, when the selected grazing management alternative, or combination of alternatives, would be initiated. Table 1-9 displays comparative changes so the reader and decision-maker can determine the relative impact of each alternative compared to the existing situation. The short-term impacts are those that would occur during the implementation phase, primarily from project developments. Long-term impacts are those that would occur by the year 2010. The following discussion summarizes the significant impacts by alternative as shown in table 1-9.

ALTERNATIVE A: THE PROPOSED ACTION

Erosion condition would improve significantly. Sediment yields would be reduced by 14 percent, to 2.1 million tons per year overall. Short-term disturbance of 9,617 acres for range developments would effect a relatively insignificant soil loss of 148,860 tons.

Acreage of excellent and good range condition would increase substantially, by 14 percent. Correspondingly, poor and fair range condition would decrease by 31 percent.

Elk winter-spring habitats would improve moderately, but summer-fall habitats would remain 40 to 50 percent unsatisfactory, a major residual adverse impact. The condition of mule deer winter-spring habitats, antelope summer-fall habitats, waterfowl nesting, and sage grouse habitats would all improve substantially (table 1-9). Riparian habitat in satisfactory condition would improve from 53 percent (239 miles) to 70 percent (315 miles). Largely satisfactory habitats would continue for mule deer summer-fall use, antelope winter-spring use, and yearlong use by moose

and bighorn sheep. The peregrine falcon, the bald eagle, and the grizzly bear would remain unaffected regardless of the management alternative selected. A determination of the effects of grazing on the northern Rocky Mountain wolf will be reserved until further inventory can be completed. In the meantime, the BLM will take no management actions that will affect the wolf.

On 251 allotments, decreases totaling 22,625 AUMs would make it necessary for operators to seek alternative sources of livestock forage or supplemental feed. Increases in allocation would total 7,281 AUMs on 114 allotments. The initial stocking level of this alternative (110,033 AUMs) would be 12 percent below current permitted use, while the AUMs projected to be harvested by livestock after 25 years would be 13 percent above current use.

The implementation cost for range developments would be substantial, a total of \$1,524,644.

Economically, 137 ranch operations would be negatively affected in the short term, while the well-being of 46 operations would improve. In the long term, 103 ranch operations would continue to be adversely affected, while the well-being of 101 ranch operations would improve.

The short-term effects on social well-being would be positive for 46 ranch **families** and negative for 240 ranch **families**. There would be positive long-term effects on the social well-being of 175 **families** and negative effects on 179 **families**.

The short-term overall net reduction in annual income would be approximately \$283,400, a 2 percent reduction from the current income for all ranch operations. By the year 2010, overall income is projected to increase by \$52,980.

Recreation/wildlife-related annual income would increase by about \$181,800 (57 percent) from an existing \$316,200. This would not represent a significant change in the regional economy, which is more than \$485,638,000.

ALTERNATIVE B: LIMITED ACTION

No significant improvement in erosion condition would be expected. Sediment yields would be 9 percent less than the overall current level. Disturbance of 1,508 acres for range developments would cause relatively insignificant soil losses totaling 25,939 tons.

Quality of fishing opportunities Level of Use Conflicts	Average/fair	No change	Moderate beneficial impact	No change	Slight beneficial impact	No change	Significant beneficial impact	No change	Significant adverse impact	No change	Significant adverse impact	No change	Significant adverse impact	Significant beneficial impact
Recreation Access	Moderate	Moderate	Moderate to significant	Moderate	Moderate	Moderate	Significant	Moderate	Moderate to significant	Moderate	Moderate	Moderate	Moderate	Intense
Recreation vs. livestock	Moderate	Moderate reduction	Moderate increase	Moderate reduction	Slight reduction	Substantial reduction	Substantial reduction	Moderate increase	Increase to intense	Moderate increase	Slight constant increase	None	None	None
Cultural Resources														
Potential number of sites impacted by range improvements	N/A	19	Minimal	3	Minimal	28	Minimal	140	Minimal	0	Minimal	5	Minimal	Minimal
Scenic Values	Moderate adverse impact	Moderate adverse impact	Slight adverse impact	Moderate adverse impact	Moderate adverse impact	Moderate adverse impact	Significant beneficial impact	Moderate adverse impact	Significant adverse impact	Moderate adverse impact	Moderate adverse impact	Beneficial impact	Significant beneficial impact	Significant beneficial impact
Livestock Grazing														
AUMs harvested annually														
by livestock	125,377	110,033	141,897	110,033	118,787	74,785	74,785	162,774	162,774	125,377	125,377	0	0	0
Licensed AUM changes (and allotments)														
Increase		7,281 (114)	33,246 (207)	7,281 (114)	14,739 (134)	3,738 (97)	a	52,001 (216)	a	0	a	0	a	a
Decrease		22,625 (251)	16,726 (234)	22,625 (251)	21,329 (247)	54,330 (325)		14,627 (226)		0		125,377 (518)		
No change		0 (153)	0 (77)	0 (153)	0 (137)	0 (96)		0 (76)		125,377 (561)		0		
Total allotments	125,377 (561)	110,033 (518)	141,897 (518)	110,033 (518)	118,787 (518)	74,785 (518)		162,774 (518)		125,377 (561)		125,377 (518)		
Net change		-15,344	+16,520	-15,344	-6,590	-50,592		+37,397		0		-125,377		

a. Long-term effects would be the same as short-term effects.

Environmental Component	Existing Situation	Alternative A: The Proposed Action		Alternative B: Limited Action		Alternative C: Improved Watershed/Wildlife Values		Alternative D: Accelerated Livestock Forage Development		Alternative E: No Action		Alternative F: Eliminate Livestock Grazing	
		Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term	Long-term
Recreation/Wildlife Related Income ^a													
Elk	\$ 156,500	\$ 0	\$ +48,200	\$ 0	\$ +29,900	\$ 0	\$ +114,200	\$ 0	\$ +3,200	\$ 0	\$ +19,800	\$ 0	\$ +159,900
Deer	\$ 151,400	\$ 0	\$ +128,400	\$ 0	\$ 0	\$ 0	\$ +136,700	\$ 0	\$ -68,400	\$ 0	\$ 0	\$ 0	\$ +153,300
Antelope	\$ 8,300	\$ 0	\$ +5,200	\$ 0	\$ 0	\$ 0	\$ +6,100	\$ 0	\$ +1,900	\$ 0	\$ 0	\$ 0	\$ +7,300
Total	\$ 316,200	\$ 0	\$ +181,800	\$ 0	\$ +29,900	\$ 0	\$ +257,000	\$ 0	\$ -63,300	\$ 0	\$ +19,800	\$ 0	\$ +320,500
Employment: ^b													
Number affected	480	-5	0	-5	-5	-14	-14	+6	+6	0	0	-33	-33
Regional Economic Impacts: ^c													
Regional Income	\$485,638,000	\$+213,000	\$+526,800	\$+30,000	\$-301,100	\$+655,000	\$-924,000	\$+768,000	\$+532,700	\$+16,000	\$+19,800	\$+1,161,000	\$-2,618,500
Regional Employment	28,000	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	Little or no change	+55	-46

a. Direct and indirect recreation/wildlife-related income.

b. Fulltime or equivalent hired ranch employees.

c. Figures shown are per year. The long-term figure shown for all alternatives is the income or employment change by 2010.

SOURCE: BLM, 1979.

Of the various courses of action being analyzed, the limited action alternative **ranks fifth in terms of improving** range condition. Poor and fair condition range would **decrease by 7 percent**, and good to excellent condition range would **increase by 4 percent**.

All wildlife habitats would remain essentially unchanged, with slight improvement in elk winter habitat.

Livestock use adjustments are the same as those described for Alternative A. The AUMs projected to be harvested by livestock after 25 years would be 5 percent less than the current permitted use.

The total implementation costs would be minimal in comparison to other alternatives—about \$202,124.

Short-term impacts on social well-being and economy would be the same as those described for the proposed action. In the long term, 108 ranch **families** would have improved social well-being, while 214 ranch **families** would be adversely affected.

By the year 2010, 124 ranch operations would have reduced income from their current levels and 59 operations would realize increases, for a net change of approximately \$201,520. This would be a 1 percent reduction from the current level. **The increase in recreation/wildlife-related earnings (\$29,900 annually) would not have a significant impact on the regional economy.**

ALTERNATIVE C: IMPROVED WATERSHED VALUES AND WILDLIFE HABITAT

Land disturbance for range developments (18,650 acres) is second to the accelerated livestock forage development alternative in extent. Soil losses would amount to 83,110 tons, which is relatively insignificant in the context of the overall improved livestock use distribution. Sediment yields would total 1,548,300 tons per year in the study area, down 38 percent from the existing situation. Other than Alternative F, which would eliminate livestock grazing from public lands, this alternative would effect the greatest improvement in erosion condition.

Lands in good or excellent condition would increase by 17 percent; this increase is second only to the accelerated livestock forage development alternative. Acreage in poor and fair condition would decrease by 32 percent.

This alternative is exceeded only by the elimination of grazing alternative in improvement of wildlife habitats. Major improvements would occur in mule deer winter-spring habitats, elk habitats, antelope summer-fall habitats, waterfowl nesting areas, and all sage grouse habitats. Riparian habitats would improve from 53 percent (239 miles) in satisfactory condition to 92 percent (414 miles).

The quality of hunting and fishing opportunities would be significantly improved; however, some recreation access would suffer from fence construction.

On 325 allotments, a total decrease of 54,330 AUMs, to 74,785 AUMs, would make it necessary for operators to seek alternative livestock forage. There would be a total increase of 3,738 AUMs on 97 allotments. The initial stocking level would be 40 percent less than current permitted use, with no increases allocated to livestock use in the long term.

The total implementation cost would be significant, \$1,805,303.

In both the short and long terms, the social well-being of approximately 326 ranch families would be adversely affected.

The average reduction in income of 45 small commercial ranch operations would be about 20 percent of current annual income. Probably 15 to 20 of these operations would be forced out of business, or off-ranch employment would have to be sought. The overall net reduction for the 203 ranches affected by this alternative would be \$801,380, or a 5 percent reduction in the total current annual income.

A \$257,000 annual increase in recreation/wildlife-related regional income would occur. This would be 81 percent more than existing recreation/wildlife-related income, but it would not represent a significant change in the total regional income.

ALTERNATIVE D: ACCELERATED LIVESTOCK FORAGE DEVELOPMENT

The greatest amount of land disturbance, 83,082 acres, would result from range developments associated with this alternative. Short-term soil losses from these activities would total 1,096,348 tons. However, the overall annual sediment yield would be reduced by 13 percent, to 2,243,300 tons. No significant erosion condition changes would occur.

Of all the alternatives, this action would bring about the greatest improvement in range condition. Lands in excellent and good condition would improve by 20 percent, while lands in poor and fair condition would decrease by 38 percent.

Major declines in condition would occur on mule deer summer-fall habitats, elk and antelope winter-spring habitats, bighorn yearlong habitats, and all seasonal sage grouse habitats. Deer, elk, riparian, and waterfowl habitats would remain in largely unsatisfactory condition.

Significant adverse impacts to the quality of hunting and fishing opportunities would occur. Recreation access would be significantly reduced; at the same time, significant decreases in naturalness, primitive recreation, and opportunities for solitude would occur.

On 226 allotments, livestock use reductions would amount to 14,627 AUMs. Increases totaling 52,001 AUMs would involve 216 allotments. The initial stocking level and the AUMs projected to be harvested by livestock after 25 years would be the same (162,774 AUMs), or 30 percent above the current permitted use.

Other than for the fencing costs estimated on a worst-case basis in the alternative to eliminate livestock grazing, this alternative would have the most significant total implementation costs, \$2,657,555.

Adverse **social** impacts would occur to 172 families, while the well-being of 183 ranch families would improve in both the short and the **long terms**.

The annual income of 107 ranch operations would be increased by \$399,660 over the current level. One hundred ranch operations would sustain decreases in income of \$165,810 annually in both the short term and the long term.

Recreation/wildlife-related regional annual income would decrease by 20 percent (\$63,300).

ALTERNATIVE E: NO ACTION

With continuation of present levels of livestock use, a slight decline in erosion condition would occur. Increases in critical and severe erosion condition, from 134,648 to 157,340 acres, would be worse than for any of the other alternatives. No land disturbance for range developments is projected. Sediment yield would be the highest of all alternatives, 2,583,700 tons per year, which is essentially a continuation of the present losses. Peak discharges and annual runoff would increase.

A significant decline in range condition would occur. Land in excellent and good condition would decrease by 4 percent; land in poor and fair condition would increase by 9 percent.

All wildlife habitats would remain essentially unchanged; largely unsatisfactory habitats would continue for mule deer and elk winter-spring use, antelope summer-fall use, waterfowl nesting, and all sage grouse use periods. Elk summer-fall habitats would remain 40 to 50 percent unsatisfactory.

The same number of BLM AUMs would be authorized in the future as at present; therefore, at least "on paper," there would appear to be no local or regional economic impacts. However, the actual amount of forage available for livestock would probably decrease, causing ranch operators to reduce livestock numbers; thus, there probably would be some reductions in real ranch income.

The social and economic well-being of the estimated 370 ranch operations would not be expected to change. **Recreation/wildlife-related regional income would increase by \$19,800. This 6 percent increase would not have a significant impact.**

ALTERNATIVE F: ELIMINATION OF LIVESTOCK GRAZING FROM PUBLIC LANDS

This alternative would result in the greatest improvement in erosion condition. Beyond the 25-year projection period, however, plant stagnation could arrest improvement at a lower level than might be expected from plant growth stimulation by light grazing. Fence construction, in a worst-case situation, could disturb 2,700 acres. Sediment yield would be significantly decreased, as would peak discharges and annual runoff.

Range condition would improve significantly, with poor and fair condition range decreasing by 10 percent and good to excellent condition range increasing by 5 percent. All wildlife habitats would improve to satisfactory condition.

There would be significant **improvement in** naturalness, primitive recreation, and quality of opportunities for hunting, fishing, and solitude. Intense conflicts pertaining to recreation access would occur.

There would be a total decrease of 125,377 AUMs on 518 allotments initially, as well as in the long term.

Should total public land fencing occur, the total implementation cost would be extreme, amounting to \$7,101,272.

Elimination of livestock grazing would reduce the income of all the 370 families that lease BLM grazing. The overall reduction in income to the 216 ranches would be \$1,862,680 annually, a 13 percent reduction from the present total income

level. Twenty-nine ranches are from 21 percent to 60 percent dependent on BLM grazing. Eighteen of these would probably be forced out of business.

A 101 percent increase (\$320,500) would occur annually in recreation/wildlife-related regional income. This would not represent a significant change in the total regional income.

tion. The owner's equity capital is therefore \$687,500, with the return on investment being about 8 percent.

The operators and their families have another source of ranch income, but this can be realized only if the ranch is sold. Over the past five years, farm real estate values have increased on an average of 12.33 percent annually in Montana (USDA, Economic, Statistics, and Cooperatives Service 1979). For a ranch with a market value of \$1 million, this means an appreciation in value of \$123,300 annually. Adding this amount to a net income of \$54,180 results in an effective rate of return to equity capital investment of 26 percent.

Permit Value

Ranchers in the study area, BLM appraisers, and the Bozeman Federal Land Bank, Dillon Branch, estimate the market value of a BLM grazing permit to average approximately \$90 per AUM. Permit value can be viewed as BLM AUM contribution to total ranch value. A \$90 per AUM permit value calculates to a cost per AUM of \$9.61. This is based on an opportunity cost of capital of 9 percent, plus the grazing fee of \$1.51 ($\$90 \times 9 \text{ percent} = \$8.10 + \$1.51 = \$9.61$). As table 2-33 shows, the total permit value for BLM forage leased to 216 individual ranches in the study area is approximately \$10,536,480. Thirty very large commercial ranches have the highest permit values of the four ranch size categories; their total is \$4,268,700.

Employment and Public Finance

The grazing adjustments of the proposed action and alternatives would have an indirect effect on the number of livestock on the 216 ranches in the study area. Since livestock are assessed for payment of property taxes, changes in livestock numbers have an effect on tax income to local government.

It is estimated that \$490,000 was paid in 1978 in property tax for livestock on the 216 ranches in the study area. This figure is based on an estimated assessed valuation of \$30,625,000. The total assessed valuation for cattle and sheep in Beaverhead, Madison, Silver Bow, and Deer Lodge counties was \$52,492,653 in 1978 (Montana, Department of Revenue 1978). Thus, assessed valuation of livestock on ranches with BLM lands is approximately 58 percent of the total assessed valuation for livestock in the study area.

A study in the EIS area (Appendix 22) determined that one work-year equivalent of hired labor was required for every 265 brood cows in the representative ranch size categories. Thus, hired ranch employment for the 216 ranches is estimated to be the equivalent of 480 fulltime employees.

Existing Recreation/Wildlife-Related Economic Conditions

Elk, deer, and antelope that use public lands in the study area generate about \$790,500 annually in expenditures to the economic region. These total expenditures result in about \$316,200 annually in direct and indirect earnings to the regional economy (see Appendix 25 for methodology).

It should be recognized that this is not the value of the wildlife resource or the amount that hunters would be "willing to pay" to hunt elk, deer, or antelope in the region. It is earnings to sporting good stores, motels, service stations, packing and outfitting concerns, and other services in the region that sell to sportsmen.

Existing Regional Economic Conditions

Earnings

Total earnings in the study area increased by 42 percent from 1972 to 1976. Deer Lodge and Silver Bow counties, the two most urbanized counties, experienced the greatest gains in personal earnings during this period. Table 2-34 shows that earnings in the study area increased slightly less, in percentage terms, than did earnings for the state as a whole during the period 1972 to 1976 (42 percent versus 48.5 percent). Silver Bow County accounted for the majority (an average of 62 percent) of the study area earnings from 1972 to 1976. This was primarily due to Silver Bow County's relatively well-developed wholesale and retail trade, government, and transportation/public utility sectors.

The four-county study area contributed approximately 9 percent to the state's total earnings during the period 1972 to 1976. Both Madison and Beaverhead counties, the two more agriculturally oriented counties, had high agricultural earnings in 1973. This resulted from high agricultural production, coupled with high agricultural prices (tables 2-34 and 2-35). Overall, it appears that the percentage of earnings attributable to agriculture has declined in the study area, as well as in the entire state, in the recent past.

Employment

Total employment in the study area increased only slightly during the period 1972 to 1976, although an employment peak of 29,296 occurred in 1974 (table 2-36). The region contributed a fairly consistent percentage to total state employment during this period, but the percentage fell slightly in 1975 and 1976. The percentage of total workers engaged in agriculture declined in the study area and in the state during the period 1972 to 1976 (table 2-37), reflecting a similar national trend.

Both Madison and Beaverhead counties had a much higher percentage of farm workers than either Silver Bow County or Deer Lodge County during this five-year period. Madison County's ratio of agricultural workers to total workers in 1976 was approximately three times that of the state as a whole and 20 times that of Silver Bow County. It should be noted that the figures in tables 2-36 and 2-37 may slightly understate actual total employment levels because temporary, transient farm workers are sometimes not counted.

Infiltration and Runoff

Research has established that grazing does affect infiltration/runoff relationships. The role of livestock grazing, however, has not been demonstrated as significantly affecting infiltration and runoff in the context of hydrologic balance over a large geographic area. Data indicate that infiltration/runoff relationships are extremely variable over large areas and that they vary within a particular range site (Green 1979).

It has been demonstrated that data relative to range condition are not sufficient for evaluating hydrologic impacts of grazing (Gifford and Hawkins 1978; USDI, BLM 1977c). It is therefore impossible to quantify in precise terms the changes in infiltration and runoff due to grazing. However, research has established certain general relationships between livestock grazing and infiltration and runoff. Grazing tends to increase runoff and erosion by reducing plant cover and density and by compacting or detaching surface soils (USDA, FS 1975a). This compaction tends to decrease infiltration, in some cases significantly, on medium and light textured soils (USDI, BLM 1977c). Compacted soils may need at least two years of rest to recover (Orr 1975). Present research has not determined just what grazing system will result in an acceptable equilibrium between vegetation, animal, and hydrologic components (Fogel, Hekman, and Gilbert 1978).

Professional judgment was used to determine what would happen to infiltration (increase, decrease, or no change) in the long term on each allotment. Appendix 15 shows the summary of the projection for each alternative on infiltration. On the basis of these projections, changes in infiltration/runoff relationships are summarized for each alternative. Although these changes may be significant to other resource values, they are not significant in the context of hydrologic balance for the study area.

Around proposed water developments and other areas where livestock use would be concentrated, runoff would increase because soils would be compacted by such use, vegetation would be trampled, and vegetation consumption would increase. This impact would be very localized.

Overall impacts of the proposed action (A) would be that runoff from the existing, revised, and proposed AMPs would decrease because of increased infiltration rates. Under the proposed action, the non-AMP and unallotted areas would experience a downward trend; that is, long-term

infiltration rates would decrease, with a corresponding increase in runoff. Increased runoff would increase erosion and resultant sediment yield (see "Compaction" in the "Soils" section of this chapter). **Infiltration would increase on 132 AMPs and decrease on 17 AMPs (see Appendix 19).**

If the limited action alternative (B) was implemented, infiltration would **increase on 68 AMPs and decrease on 49 AMPs**. Non-AMPs and unallotted areas would experience a decrease in infiltration rates **on 34 allotments and an increase on 69 allotments**.

Under the improved watershed values and wildlife habitat alternative (C), infiltration would **increase or remain static** on all of the AMPs. Infiltration on 49 of the unallotted areas and non-AMPs would increase, **with 63 areas** having decreasing infiltration rates.

Infiltration rates on 101 AMPs would increase with the accelerated livestock forage alternative (D); rates would decrease on 37 AMPs. A total of 35 unallotted areas and non-AMPs would have an increase in their infiltration rate, while 69 would have a decrease.

Under the no action alternative (E), 20 AMPs would have increases and 74 AMPs would have decreases in their infiltration rates. Rates would increase on 18 unallotted areas and non-AMPs, while 78 would have decreased infiltration rates.

Elimination of livestock grazing on public lands (Alternative F) would cause infiltration rates to increase on all AMPs (186) and on the unallotted areas and non-AMPs (332).

Conclusions—The role of livestock grazing has not been demonstrated as significantly affecting infiltration and runoff in the context of hydrologic balance over the study area. However, the changes in infiltration/runoff relationships may be significant to other resource values.

Surface Water Quality

Certain aspects of livestock grazing have a minimal effect on water quality. Spraying, burning, and plowing and seeding would have minimal impacts on water quality. Short-term sediment yield would increase following these practices, but long-term sediment yield would decrease because of increases in vegetation and ground cover.

Water temperatures would increase slightly in areas where existing riparian vegetation was

reduced by grazing. Any increase in streamside vegetation would result in a decrease in water temperature.

Existing data show that bacteria counts when cattle are present exceed state standards for fecal coliform up to 69 percent of the time (Foggin, Reid, and Gilbert 1978). Implementation of any of the grazing alternatives would not change bacterial concentrations, as cattle congregate in the stream bottoms, regardless of numbers present. The implementation of the no grazing alternative would result in significantly lowered bacterial concentrations, because bacterial counts would drop to previous levels following removal of cattle (USDA, FS 1978a).

The water quality parameter that would be affected most by any alternative would be sediment. Table 3-12 shows the estimated sediment yield in tons per year for each alternative and the percentage of change from the existing situation. These estimates were arrived at by using the Pacific Southwest Inter-Agency Committee (PSIAC) method.

As stated in the "Water Resources" section of chapter 2, the state of Montana has classified most of the waters in the study area as B-D1, with some exceptions being A-Open-D1, which is a higher classification. In waters under these classifications, "no increases above naturally occurring concentrations of sediment . . . which adversely affect the uses indicated, are allowed." Waters under these classifications are to be maintained suitable for bathing, swimming, and recreation; growth and propagation of salmonid fishes and associated aquatic life, waterfowl, and furbearers; and agricultural and industrial water supply.

Any increases in sediment in the study area would adversely affect the growth and propagation of salmonids and associated aquatic life.

Suspended sediment may impair agricultural, industrial, and municipal **uses and decrease** the aesthetic and recreational values of water. It reduces the useful life of reservoirs; reduces dissolved oxygen in water bodies, inhibiting aquatic life; and reduces crop yields and agricultural efficiency.

Although sediment yield affects water uses and aquatic productivity within the study area, it was not possible to draw an exact numerical correlation between the two. Any reduction in sediment yield is directly beneficial to water users and the aquatic environment. Further increases in sedi-

ment concentrations would further reduce channel stability by increasing a stream's power and its erosional depositional processes. Stream width would increase as the banks retreated, creating shallower streams, thus increasing water temperatures (Kennedy 1977).

Two sources of sediment exist, channel erosion and upland erosion. Upland erosion is easier to control, as grazing pressures are easier to regulate on the uplands than in the stream corridors. Upland erosion most often correlates to ground cover.

Channel erosion is the major contributor of sediment. Channel erosion is hard to control because, regardless of the number of cattle that remain in an allotment, they will still congregate in stream bottoms. As Ames pointed out at a symposium on riparian habitat, "because the areas are usually extremely narrow and linear, grazing for only a few days can seriously impair its reproductive capacity. It's like having the milk cow get in the garden for one night" (1977). This damage can occur even with limited numbers of livestock. About the only way to reduce accelerated channel erosion by grazing is to fence the areas and keep livestock out (Ames 1977) (see "Riparian Habitat" in the "Terrestrial Wildlife" section of this chapter). While trampling may help plant seeds, it also causes stream bank erosion and instability (Meehan and Platts 1978).

The PSIAC estimates are based on the professional judgment of the Dillon Resource Area soil scientist concerning changes in parameters due to the alternative actions. The parameters include runoff, ground cover, land use, upland erosion, channel erosion, and sediment transport.

Since most of the sediment is produced from stream banks and channels, the estimated sediment yields should follow the same pattern as riparian habitat condition. That is, if riparian habitat condition improved, less sediment would be produced.

The overall sediment yields in table 3-12 do correlate with the "Riparian Habitat" section and table 3-30, which shows estimates of stream corridor improvement or degradation. When estimates of riparian habitat **condition** were done, two criteria were used, woody species and bank condition (see the riparian habitat discussion under "Terrestrial Wildlife" in this chapter).

TABLE 3-18

CURRENT AND LONG-TERM PROJECTED RANGE CONDITION BY VEGETATION TYPE
FOR ALTERNATIVE B: LIMITED ACTION

	Range Condition					
	Excellent (acres)	Good (acres)	Fair (acres)	Poor (acres)	Not Identi- fied (acres)	Total (acres)
<u>Current Situation</u>						
Grasslands	51,261	126,847	69,283	5,014	281	252,686
Meadows	12	4,173	4,565	835	5	9,590
Sagebrush	30,661	225,744	135,289	5,497	1,024	398,215
Mountain shrub, conifer, waste	<u>8,712</u>	<u>13,113</u>	<u>13,502</u>	<u>3,741</u>	<u>91,195</u>	<u>130,263</u>
Total	90,646	369,877	222,639	15,087	92,505	790,754
<u>Limited Action</u>						
Grasslands	54,132	134,111	57,593	6,569	281	252,686
Meadows	0	3,768	4,709	1,108	5	9,590
Sagebrush	32,919	230,523	123,517	10,232	1,024	398,215
Mountain shrub, conifer, waste	<u>8,712</u>	<u>13,113</u>	<u>13,502</u>	<u>3,741</u>	<u>91,195</u>	<u>130,263</u>
Total	95,763	381,515	199,321	21,650	92,505	790,754
Percentage of change	+ 5.6%	+ 3.1%	- 10.5%	+43.5%	0	

SOURCE: BLM, 1979.

vegetation, the availability of water, and cooler temperatures. The result of such heavy, concentrated livestock grazing is a loss of the natural character that recreationists prefer. Consequent soil exposure and erosion often result in a severe deterioration of an area's natural qualities. Campers and bank fishermen are particularly affected by animal waste, associated unpleasant odors, and annoying insects. Heavily hedged woody riparian vegetation reduces **scenic** values associated with the recreation experience and is ineffective in screening visual intrusions from river floaters. The total effect is a reduction in the quality of the recreation opportunity and experience.

Grazing alternatives that substantially increase the amount of new fence construction add more barriers to cross-country off-road vehicle (ORV) travel. This has an especially adverse effect on hunting, fishing, and snowmobile activities. There is also an increased possibility of injury to snowmobile operators from fences obscured by snow cover.

The degree to which any alternative affects scenic (aesthetic) values must be considered for public lands and for special management areas either located on or bordered by BLM-administered lands. Maintenance of scenic values is related to the quality of recreation experiences, including the public's stated preference for primitive or natural experiences. The effects of the proposed action and alternatives on scenic values in the study area are discussed in the "Scenic Values" section of this chapter.

Analysis Methodology and Assumptions

The following assumptions and methodology have been used to analyze the effects of the grazing alternatives in regard to the three major factors in the quality of recreation opportunities.

Fishing and Hunting Opportunities

It has been assumed that a direct correlation exists among habitat conditions, fish and game populations, and hunting or fishing opportunities. All fish and game habitats in the study area have the potential to attain at least good or satisfactory condition. The analysis of impacts on all hunting and fishing opportunities, with the exception of elk hunting, has been based on the major habitat component that limits such opportunities. Impacts on both spring habitats and summer-fall habitats were considered in the analysis of elk hunting opportunities.

Figure 3-18 illustrates the procedure used to correlate habitat condition and fish and wildlife populations with the quality of hunting or fishing opportunities. The procedure is based on the premise that if a grazing alternative reduced habitat quality, fish or game populations would be reduced, and the quality of fishing or hunting opportunities also would be reduced accordingly.

The actual population levels of fish and game are obviously affected by a host of other factors such as disease, predation, weather, and population cycles. **(The views of sports enthusiasts as to what constitutes quality hunting or fishing opportunities vary widely and can be very subjective.)** This analysis, however, concentrates solely on how the various grazing alternatives would affect habitat conditions and the resultant impact on population levels, a major component in determining the quality and quantity of recreation opportunities.

Definitions for hunting or fishing opportunity rating terms used in figure 3-18 are provided in table 3-33.

Use Conflicts

The degree to which conflicts occur depends on the number of cattle concentrated within recreation areas. A basic assumption of this analysis is that an increased livestock forage allocation would result in increased livestock numbers and therefore in increased concentrations of livestock. Thus, use conflicts would be most intense under grazing alternatives that propose substantial forage allocation increases to livestock and relatively less intense for alternatives with lower livestock forage allocations. The intent of this analysis is to consider the cumulative impact of each grazing alternative in regard to livestock numbers and concentrations, rather than to discuss impacts on a site-by-site basis.

Recreation Access and User Safety

Grazing alternatives were evaluated on the total amount of new fence construction proposed. For example, a significant increase in fence construction is described as an adverse impact, while a minor increase is characterized as an insignificant barrier or a safety hazard to cross-country travel.

from the current situation, employment and personal property tax impacts would not be significant under any alternative.

Economic Consequences of Recreation/Wildlife-Related Earnings

This section evaluates the effect of each alternative on direct and indirect recreation/wildlife-related earnings in the economic region (see Appendix 25 for methodology and the tables in that appendix for analysis summary). The evaluation is limited to elk, deer, and antelope, because sufficient information was not available to evaluate the economic consequences of improved hunting of waterfowl, sage grouse, blue grouse, and moose, or of improved fishing. However, it is recognized that enhanced opportunities to hunt and fish for these species due to habitat improvements also would have positive effects on the regional economy.

A. The Proposed Action

There would be little or no impact on direct and indirect recreation/wildlife-related earnings in the short term under the proposed action. This is because the biological response to habitat improvement is not immediate but occurs over a period of years. In the long term (by 2010), as habitat improvement increased animal numbers, direct and indirect recreation/wildlife-related earnings for the region would increase by about \$181,800 annually, or 57 percent more than the present level. Deer hunting would generate the largest part of this increase. This would result in a change of less than 0.04 percent of the total regional economy, which is about \$485,638,000.

B. Limited Action

Under the limited action alternative there would be no long-term or short-term increase in regional earnings related to deer or antelope. Elk-related direct and indirect regional earnings would increase by about \$29,900 annually in the long term. This would be an increase of about 0.006 percent in total regional earnings, which would not be considered significant.

C. Improved Watershed Values and Wildlife Habitat

The long-term increase in direct and indirect recreation/wildlife-related earnings under the improved watershed values and wildlife habitat alternative would be \$257,000, or about an 81 percent increase over present earnings. The impact on total regional earnings would be insignificant, since the increase would amount to only about 0.05 percent of \$485,638,000.

D. Accelerated Livestock Forage Development

Recreation/wildlife-related direct and indirect earnings would be reduced by about \$63,300 annually under the accelerated livestock forage development alternative. This would be about a 20 percent reduction from the present recreation/wildlife-related direct and indirect earnings of \$316,200. The reduction in total regional earnings would amount to about 0.01 percent, which would be considered insignificant.

E. No Action

Under the no action alternative there would be no increase in earnings in the short term and only a small increase (\$19,800) in annual direct and indirect recreation/wildlife-related earnings in the long term. All of this increase would be due to the natural increase in elk population. This would amount to a 6 percent increase in recreation/wildlife-related earnings and an 0.004 percent increase in total regional earnings.

F. Elimination of Livestock Grazing from Public Lands

The elimination of livestock grazing from public lands would initially have little or no effect on recreation/wildlife-related regional earnings. In the long term, annual direct and indirect recreation/wildlife-related earnings would increase in the region by \$320,500. This would more than double the present regional earnings related to wildlife that use public lands. The impact on the total regional economy of more than \$485,638,000 would not be significant, since the increase would be less than 0.07 percent.

Conclusions

All alternatives except Alternative D show an increase in direct and indirect recreation/wildlife-related regional earnings. Of all alternatives, Alternative F would result in the greatest increase in direct and indirect recreation/wildlife-related earnings. This increase would more than double the recreation/wildlife-related earnings; however, this would result in an increase of only 0.07 percent in the total regional earnings of \$485,638,000. Alternative D would reduce direct and indirect recreation/wildlife-related earnings by 20 percent and total regional earnings by 0.01 percent. It is therefore concluded that changes in recreation/wildlife-related earnings under any alternative would have no significant effect on the economy of the study area.

Regional Economic Conditions

The following analysis, displayed by alternative, utilizes the BLM Dynamic Regional Analysis Model (DYRAM) to forecast changes in regional earnings. The model uses historic input/output relationships among economic sectors to generate expected changes in total earnings within the study area. Appendix 23 contains a discussion and schematic outline of this model. Since this analysis presents expected changes in regional economic conditions within the study area, it necessarily draws upon some of the findings presented earlier in this section concerning operator-specific impacts.

Earnings

Input to the model consists of direct changes in study area earnings resulting from the BLM actions associated with each of the six alternatives being considered. The BLM-initiated changes associated with each alternative can be aggregated into the following three primary change items: (1) cost of implementing range developments during the four-year construction period (1981-1984), including equipment and labor; (2) changes in ranch earnings due to changes in regional red meat production that would result from changes in forage availability; and (3) the maintenance cost of range developments.

Item (1) consists of expenditures by the federal government to the contract construction sector during the four-year construction period. Expenditure values were converted to earnings for the contract construction sector by dividing expenditures by the expenditure/earnings coefficient of 2.037. Values in item (2) come from the operator-specific analysis presented earlier in this section. Item (3) involves consideration of several different cost factors associated with long-term (through the year 2010) maintenance of the range developments suggested for each alternative. Appendix 23 shows the specific cost factors associated with maintenance of the range developments being considered under each alternative.

Table 3-57 presents the direct regional changes in earnings by alternative as discussed above. Under Alternative A, for example, an annual earnings increase of \$172,000 per year would occur in the contract construction sector (sector 150) because of expenditures by the federal government in that sector during the construction period from 1981 to 1984. In 1985, direct reductions in ranchers' earnings (sector 013) under Alternative A would occur (minus \$308,000), and annual

expenses by the government (sector 910) for maintenance of the proposed action would be plus \$154,000. By the year 2010, impacts to ranchers' earnings would become positive (plus \$37,000) because of increased forage availability, and annual maintenance expenses would remain equal to those in 1985 (plus \$154,000). The remainder of table 3-57 shows corresponding direct earnings figures for the other alternatives.

Inter-industry earnings multipliers calculated by DYRAM (Appendix 23) are used to determine the total regional direct and indirect earnings impacts by alternative. These earnings multipliers are based on the understanding that for every dollar of earnings gained or lost in, for example, the livestock sector, the study area would gain or lose approximately \$1.54 in earnings. Applying these sector-specific multipliers to the sectors that are expected to gain or lose earnings results in estimates of the total earnings change (both direct and indirect) over the entire study area by year. **Direct and indirect recreation/wildlife-related earnings are included in the change in total earnings. (See Appendix 25 for methodology of calculating recreation/wildlife-related earnings).** Table 3-58 presents the changes in total study area earnings by alternative for selected years through 2010.

Total study area earnings increased approximately 8 percent per year during the period from 1972 to 1976 (table 2-34, chapter 2). Assuming that this same earnings growth rate occurred during 1976 to 1979, it is possible to estimate total study area income for 1979 at approximately \$485,638,000. Table 3-58 presents total changes in study area earnings resulting from each of the alternatives (1979 dollars) as a percentage of estimated total study area earnings.

Alternative F, Elimination of Livestock Grazing from Public Lands, would result in the greatest negative change (minus 0.6 percent) in total long-term study area earnings. This reduction would result primarily from direct reductions in earnings to the livestock sector. Alternative D, Accelerated Livestock Forage Development, would generate the greatest positive percentage change (0.12 percent) in total long-term study area earnings because of the direct increase in earnings in the livestock sector from this alternative. The remaining alternatives would result in study area earnings changes falling between these two extremes.

TABLE 3-57

DIRECT CHANGES IN EARNINGS IN THE STUDY AREA
BY ALTERNATIVE AND SECTOR
(thousands of 1979 dollars)

Year	Sector (same for all alternatives) ^a	Alternative					
		A: Proposed Action	B: Limited Action	C: Improved Watershed/ Wildlife Values	D: Accelerated Forage Development	E: No Action	F: Eliminate Livestock Grazing
1981	150	+172	+ 24	+529	+620	+13	+ 938
1982	150	+172	+ 24	+529	+620	+13	+ 938
1983	150	+172	+ 24	+529	+620	+13	+ 938
1984	150	+172	+ 24	+529	+620	+13	+ 938
1985	910	+154 ^b	+ 4	+ 76	+130	--	+ 54
	013	-308	-308	-858	+229	--	-1,972
1990	910	+154 ^b	+ 4	+ 76	+130	--	+ 54
	013	-239	-290	-858	+229	--	-1,972
2000	910	+154 ^b	+ 4	+ 76	+130	--	+ 54
	013	- 32	-255	-858	+229	--	-1,972
2010	910	+154 ^b	+ 4	+ 76	+130	--	+ 54
	013	+ 37	-219	-858	+229	--	-1,972

SOURCE: Montana State Office and Butte District office, BLM, 1979.

a. Sector designations: 150 = contract construction; 910 = federal government; 013 = livestock.

b. Includes 6 additional GS-9 range conservationist positions at \$17,000 per year (10/79 pay scale).

TOTAL CHANGES IN EARNINGS IN THE STUDY AREA BY ALTERNATIVE
(thousands of 1979 dollars)

SOURCE: BLM, Montana State Office, 1979.

NOTE: Direct and indirect changes are shown.

contract construction	- 1.238
livestock	- 1.542
federal government	- 1.868

a. Measured against estimated total study area earnings for 1979 of approximately \$485,638,000.

b. Percentage changes are not shown in cases where they are between -0.15% and $+0.15\%$.

Employment

Total employment impacts resulting from the alternatives would be negligible throughout the study area. Table 1-9, chapter 1, shows the employment changes expected by alternative in the short term (1981 to 1984). Alternative F would create the largest employment increases (additional BLM personnel); during the short term (the 1981-1984 construction period) there would be 9 permanent and 30 temporary additional positions. Only the proposed action would generate additional employment (6 new BLM positions) over the long term. The preceding operator-specific impact section discusses direct employment impacts on ranchers by alternative; it shows that Alternative F would generate the largest direct decrease in ranching employment (33 fewer jobs) over the long term from 1985 to 2010.

If an employment multiplier of 1.4 is used for the study area (that is, 1.4 total positions gained/lost for each direct position gained/lost), it can be estimated that total long-term employment impacts in the study area for Alternative A (greatest employment gain) would be a gain of 0.02 percent over the estimated 1979 total study area employment of 28,000, and that Alternative F (greatest employment loss) would cause a reduction of 0.2 percent.

Conclusions

The total direct and indirect impacts on earnings or employment in the study area would be significantly less than 1 percent of total estimated 1979 earnings and employment levels. Consequently, the level of overall earnings/employment impacts within the four-county study area would be insignificant during both the long term and the short term for all alternatives.

APPENDIX 2: METHODOLOGY FOR DETERMINING STOCKING RATES, LIVESTOCK FORAGE ALLOCATION, AND ECOLOGICAL RANGE CONDITION

Field data from the ocular reconnaissance forage **surveys** conducted in the Mountain Foothills EIS study area during 1976, 1977, and 1978 were used as a basis for estimating current carrying capacities on proposed AMPs and non-AMPs. **Before proposed initial stocking rates were set, adjustments were made for unsuitable range and partially usable range. Adjustments also were made for wildlife, recreation, and watershed allocations determined through the Multiple Use Planning System.**

On the 48 operational AMPs, actual use, range condition, and trend were considered in determining the current carrying capacities, and adjustments in stocking rates were modified by MFP-2 allocations to determine proposed initial stocking rates. Present ecological condition was determined through the use of technicians' guides developed by the Soil Conservation Service (SCS) and from field data from the ocular reconnaissance forage **surveys**.

OCULAR RECONNAISSANCE METHOD

Example AP2-1 shows a sample ocular reconnaissance forage survey type writeup.

The ocular reconnaissance forage survey method (*BLM Manual*, section 4412.11A) is a system of inventorying vegetation by estimating total forage density and percentage composition, by species, in a range type. Range types are mapping units used in forage surveys, delineated and subdivided as necessary on the basis of abundance of vegetation, species composition, slope, exposure, kind of soil, and erosion.

Density consists of general ocular estimates of overhead (vertical) ground cover for the current year's growth of all usable vegetation on each range type. Density is recorded as the decimal proportion of the ground that is covered as viewed from directly above. Composition values for each species are obtained through estimates of the percentage of the total density attributable to each.

Lists of proper use factors (PUF) are prepared for each plant species. Proper use for a particular plant is the degree to which its current annual growth will be utilized by a grazing animal when the range is properly used. For the Mountain Foothills EIS study area, proper use tables from a number of nearby areas were compared, adapted to local plant species, and adjusted for grazing patterns observed in this local area.

The proper use pastures were selected to be representative of the survey area done **by a particular survey crew**. The same persons that did the range survey did the proper use pasture survey. Selecting good proper use pastures was not easy. In order to qualify, the pasture must have a good actual use record, be representative of the area being surveyed (similar soil, vegetation, climatic influences), and be interpreted as "properly used." Proper use was determined by some utilization studies and professional judgment.

It is important to remember that a forage inventory survey is a best estimate at a point in time and space as to what a particular piece of rangeland can support. The actual grazing capacity on a piece of ground depends on a variety of ecological circumstances and on the grazing program, and is evidenced by adequate trend, accurate actual use information, and livestock performance. When trend and actual use were available, they were used in lieu of survey information.

FORAGE ALLOCATION

The following discussion reconstructs total annual vegetation production and major allocation levels. The basic concern is how much of the vegetation production is being allocated to livestock grazing, wildlife, watershed, and other uses.

Figure 1-2, on page 11, shows estimates of how forage would be allocated in the entire study area. Table AP2-1 shows estimated figures for forage allocation in the entire area and summarizes production and allocation. Examples are given for one existing AMP, one proposed AMP, and one non-AMP. The following explains how the figures in table AP2-1 were derived:

Column 1: The allotment name and number of each example are shown.

Column 2: Two methods of estimation were used for comparison.

Procedures for each method are discussed below.

Columns 3 and 4 (ocular reconnaissance method): Ocular reconnaissance writeups were used to determine the portion of the total annual production that is palatable and usable under proper use. From this, the total annual production was computed. The average cattle proper use factor (CPUF) for each type writeup was multiplied by the acreage of that type. These figures were then added together and the total was divided by the total acreage to give the percentage of the total production (TAP) that was

palatable to cattle and usable under proper use (column 4). Dividing the known AUMs by this figure gave the total annual production (column 3).

Column 3 (soil survey method): Information from soil surveys by the Soil Conservation Service (SCS) and the University of Montana was also used to determine total potential production, as a basis of comparison to the TAP determined by the ocular reconnaissance method. The average potential productivity (pounds per acre) of each soil mapping unit was multiplied by acres of that unit in the AMP, and these figures were added to determine total potential annual production in pounds. Since the SCS listed a range of potential productivity, a range of total annual production was computed. This TAP was then divided by 1,800 pounds (720 pounds of forage per AUM divided by 40 percent proper use factor) to convert the figure to AUMs.

Column 5: From the palatable, usable livestock forage determined by the ocular reconnaissance method, deductions were made for unsuitable or partially usable range on the basis of such factors as steep, rocky, timbered, or unsuitable soils, lack of water, and distance from water. Mueggler's article discussing livestock distribution was used as a guide to make utilization deductions (Mueggler 1965).

Column 6: Other deductions were made for the watershed, wildlife, and recreation allocations given in the recently updated multiple use planning documents.

Column 7: The proposed initial stocking rate is the remainder of the TAP after all the above deductions have been made. Percentage figures in parentheses are percentages of the TAP.

DETERMINATION OF PRESENT ECOLOGICAL CONDITION

Present range condition was determined by application of ocular reconnaissance data to the SCS technicians' guides. **Range sites were determined by soil surveys; these range sites were then mapped by precipitation zone.** The estimated vegetation composition of each range site, as determined by ocular reconnaissance, was compared with the climax plant community of the same range site in the same precipitation zone, with the use of the technicians' guides.

The climax plant community for a range site was determined from a protected or relatively undisturbed rangeland. The plant community of the least disturbed range sites was considered the potential vegetation. The degree to which the present plant community varies from the climax plant community is described by four condition classes: excellent, good, fair, and poor. Example AP2-2 shows how the ocular reconnaissance data and technicians' guides were used to develop range condition classes.

It is recognized that species composition as determined by ocular reconnaissance (**reconnaissance area**) is not directly related to species composition per the ecological site method (weight). **Nonetheless, we consider these estimates to be conservative and valid on a relative basis.**

APPENDIX 25:

METHODOLOGY FOR CALCULATING NEW INCOME GENERATED TO THE ECONOMIC REGION FROM WILDLIFE HABITAT IMPROVEMENT

ELK—ASSUMPTIONS

Winter range currently limits elk numbers.

Elk population will respond in equal proportion to improvement on winter habitat.

Hunting effort required to bag one elk will remain constant at 44 days.

The hunting use will be proportional to the elk population level at an average rate of 20 percent harvest; thus, if elk population increases, the number of elk harvested would be expected to increase in proportion.

The estimated ratio of resident hunters to non-resident hunters will remain constant at 5 to 1.

The estimated percentage of resident hunters originating outside the economic region of total hunters will remain constant at 16.

The estimated expenditure per day for nonresident hunters in Montana is \$68. It is assumed that this total amount will be spent in the economic region for those nonresident hunters whose destination is the region. This is based on the concept that nonresident expenditures outside the economic region but in Montana would be offset by expenditures of nonresidents in the economic region whose destination is to other areas in Montana.

The estimated expenditure per day for resident hunters in Montana is \$26. According to a study in Colorado, 43 percent of the elk hunters' expenditures are variable, whereas 57 percent are fixed. It is assumed that this percentage is applicable to Montana and that all variable expenditures are spent in the hunting location, whereas all fixed expenditures are spent in the place of residence.

It is further assumed that the variable expenditures by residents of the region would be made outside the region if it were not for the elk resource within the region. In this sense, the variable expenditures within the region represent new money; that is, a loss avoided. Fixed expenditures by residents in the region are not counted, since they do not represent new money but divert expenditures from other sections of the local economy.

MULE DEER—ASSUMPTIONS

Deer that winter on public lands also summer on public lands.

Deer population will respond in equal proportion to improvements in habitats.

Hunting effort required to bag one deer will decline from 24 days to 21 days (see Montana Department of Fish, Wildlife, and Parks Strategic Plan) by 2010.

The hunting use will be proportional to deer population levels at an average rate of 25 percent harvest; thus, if deer population increases, the number of deer harvested would be expected to increase in proportion.

The percentage of total hunters to the region that are nonresidents will remain constant at 16.

The estimated percentage of resident hunters originating outside the economic region of total resident hunters will remain constant at 16.

The estimated expenditure per day for nonresident hunters in Montana is \$68. It is assumed that this total amount will be spent in the economic region for those nonresident hunters whose destination is the region. This is based on the concept that nonresident expenditures outside the economic region but in Montana would be offset by expenditures of nonresidents in the economic region whose destination is to other areas in Montana.

The estimated expenditures per day for residents in Montana is \$26. According to a study in Colorado, 32 percent of the deer hunter expenditures are variable, whereas 68 percent are fixed. It is assumed that this percentage is applicable to Montana and that all variable expenditures would be made in the hunting location, whereas all fixed expenditures would be made in the place of residence. It is further assumed that the variable expenditures by residents of the region would be made outside the region if it were not for the deer hunting opportunities within the region.

Fixed expenditures by residents in the region are not counted since they do not represent new money but divert expenditures from other sectors of the local economy.

ANTELOPE—ASSUMPTIONS

Summer range is the primary factor that limits antelope numbers.

Antelope population will respond in equal proportion to improvements in habitat.

The hunting effort required to bag one antelope will remain constant at 3 days.

Hunting use will be proportional to the antelope population level at an average rate of 25 percent harvest.

The estimated ratio of residents to nonresidents will remain constant at 10 to 1.

The estimated percentage of resident hunters originating outside the economic region of total resident hunters will remain constant at 25.

The estimated expenditure per day for nonresident hunters in Montana is \$68. It is assumed that this total amount will be spent in the economic region for those nonresident hunters whose destination is the region. This is based on the concept that nonresident expenditures outside the economic region but in Montana would be offset by expenditures of nonresidents in the economic region whose destination is to other areas in Montana.

The estimated expenditures per day for residents in Montana is \$26. According to a study in Colorado, 32 percent of the deer hunter expenditures are variable, whereas 68 percent are fixed. It is assumed that this percentage is applicable to antelope in Montana and that all variable expenditures would be made in the hunting location, whereas all fixed expenditures would occur in the place of residence. It is further assumed that the variable expenditures by residents of the region would be made outside the region if it were not for the antelope hunting opportunities within the region.

INCREASED HUNTER DAYS BY ALTERNATIVE

Alternative	Percentage of Satisfactory Habitat	Percentage of Change	Additional Number of Animals	Additional Number of Animals Harvested	Hunter Days Required To Harvest One Animal	Additional Number of Hunter Days
<u>Elk</u>						
A	61.5	30.8	595	119	44	5,236
B	56.0	19.1	369	74	44	3,247
C	82.5	75.5	1,459	292	44	12,848
D	43.0	2.1	41	8	44	352
E	53.0	12.8	247	49	44	2,156
F	95.0	102.1	1,973	395	44	17,380
<u>Deer</u>						
A	82.5	87.5	3,396	849	21	17,829
B	44.0	--	--	--	21	--
C	85.0	93.2	3,617	904	21	18,984
D	30.0	-46.6	- 1,808	- 452	21	- 9,492
E	44.0	--	--	--	21	--
F	90.0	104.5	4,055	1,014	21	21,294
<u>Antelope</u>						
A	82.5	60.20	1,243	311	3	933
B	51.5	--	--	--	3	--
C	87.5	69.90	1,443	361	3	1,083
D	62.5	21.40	442	111	3	333
E	51.5	--	--	--	3	--
F	95.0	84.59	1,745	436	3	1,308

ESTIMATED AVERAGE HUNTER EXPENDITURES THAT GENERATE EARNINGS TO THE ECONOMIC REGION

Animal	Nonresident Expenditures Per Day ^a	Resident Expenditures Per Day ^a	Percentage of Total Hunters Who Are Nonresidents ^b	Percentage of Resident Hunters Who Are From Outside Region ^b	Percentage of Resident Hunters Who Are From Region ^b	Percentage of Total Expenditures That are Variable ^c
Elk	\$68	\$26	20%	16%	84%	43%
Deer	68	26	16%	16%	84%	32%
Antelope	68	26	10%	25%	75%	32%
Calculations of Average Expenditures per Increased Hunter Day ^d						
Elk	$(\$68 \times .20) + (\$26 \times .128 \times .43) + (\$26 \times .672 \times .43) = \$23.00$					
Deer	$(\$68 \times .16) + (\$26 \times .135 \times .32) + (\$26 \times .705 \times .32) = \$18.00$					
Antelope	$(\$68 \times .10) + (\$26 \times .225 \times .32) + (\$26 \times .675 \times .32) = \$14.00$					

a. Montana, Department of Fish and Game, Economic Survey: 1960, (Helena, 1960). Adjusted by Consumer Price Index: 1960 = 88.7; 1967 = 100; 1978 = 191.2

b. Montana, Game, Fish, and Parks Department, Job Progress Reports.

c. Colorado, Division of Game, Fish and Parks, A Survey of Sportsment Expenditures for Hunting and Fishing in Colorado, 1968, by Kenneth Nobe and Alphonse Gilbert (Denver: 1970). Technical publication 24. Nobe is chairman of the Department of Economics, Colorado State University, Fort Collins, and Gilbert is an assistant professor in the Department of Agricultural Economics, University of Vermont, Burlington.

d. Rounded to nearest dollar.

ESTIMATED INCREASED ANNUAL EXPENDITURES AND EARNINGS TO REGIONAL ECONOMY
BY ALTERNATIVE

Alternative	Additional Hunter Days	Average Expenditures	Additional Total Annual Expenditures ^a	Coefficient ^b	Additional Annual Earnings ^a
<u>ELK</u>					
A	5,236	\$23.00	\$ 120,400	.40	\$ 48,200
B	3,247	23.00	74,700	.40	29,900
C	12,848	23.00	295,500	.40	114,200
D	352	23.00	8,000	.40	3,200
E	2,156	23.00	49,600	.40	19,800
F	17,380	23.00	399,700	.40	159,900
Increased direct and indirect earnings generated to regional economy: Increased annual earnings + increased elk = earnings per elk--\$48,200 + \$95 = \$81 per elk in increased population; \$405 per elk harvested. ^c					
<u>Deer</u>					
A	17,829	\$18.00	\$ 320,900	.40	\$ 128,400
B	--	--	--	--	--
C	18,984	18.00	341,700	.40	136,700
D	- 9,492	18.00	-170,900	.40	- 68,400
E	--	--	--	--	--
F	21,294	18.00	383,300	.40	153,300
Increased direct and indirect earnings generated to regional economy: Increased annual earnings + increased deer = earnings per deer--\$128,400 + \$3,396 = \$39.00 per deer in increased population; \$151 per deer harvested. ^c					
<u>Antelope</u>					
A	933	\$14.00	\$ 13,100	.40	\$ 5,200
B	--	--	--	--	--
C	1,083	14.00	15,200	.40	6,100
D	333	14.00	4,700	.40	1,900
E	--	--	--	--	--
F	1,308	14.00	18,300	.40	7,300
Increased direct and indirect earnings generated to regional economy by one more antelope: Increased annual earnings + increased antelope = earnings per antelope--\$5,200 + 1,243 = \$4 per antelope in increased population; \$17 per antelope harvested. ^c					

SOURCE: BLM, 1980.

a. Rounded to nearest \$100

b. Direct and indirect business activity coefficient for household sector selling to sportsmen. Adapted from J. R. McKean, Input - Output Analysis for Sportsman Expenditures in Colorado (Fort Collins, CO: 1979). McKean is with the Department of Economics, Colorado State University.

c. This figure represents the direct and indirect impact on earnings in the regional economy; that is, earnings to sporting good stores, motels, packers and guides, etc. It does not represent the value of an elk, a deer, or an antelope or the amount a hunter would be "willing to pay" to hunt these game animals.

Form 1279-3
(June 1984)

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